



# National Institute of Justice

Law Enforcement and Corrections Standards and Testing Program

## **Guide for the Selection of Personal Protective Equipment for Emergency First Responders (Percutaneous Protection—Garments)**

**NIJ Guide 102–00**

**Volume IIb  
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**U.S. Department of Justice  
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## **Guide for the Selection of Personal Protection Equipment for Emergency First Responders (Percutaneous Protection— Garments)**

**NIJ Guide 102- 00, Volume IIb**

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## **National Institute of Justice**

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## FOREWORD

NIJ is the research, development, and evaluation agency of the U.S. Department of Justice and is solely dedicated to researching crime control and justice issues. NIJ provides objective, independent, nonpartisan, evidence-based knowledge and tools to meet the challenges of crime and justice, particularly at the State and local levels.

The NIJ Director is appointed by the President and confirmed by the Senate. The Director establishes the Institute's objectives and is guided by the priorities of the Office of Justice Programs, the U.S. Department of Justice, and the needs of the field. The Institute actively solicits the views of criminal justice and other professionals and researchers to inform its search for the knowledge and tools to guide policy and practice.

In partnership with others, NIJ's mission is to prevent and reduce crime, improve law enforcement and the administration of justice, and promote public safety. By applying the disciplines of the social and physical sciences, NIJ:

- C      Researches the nature and impact of crime and delinquency.
- C      Develops applied technologies, standards, and tools for criminal justice practitioners.
- C      Evaluates existing programs and responses to crime.
- C      Tests innovative concepts and program models in the field.
- C      Assists policymakers, program partners, and justice agencies.
- C      Disseminates knowledge to many audiences.

As part of its standard development activities, NIJ serves as the executive agent for the Interagency Board for Equipment Standardization and Interoperability (IAB). The IAB has developed a set of priorities for standards for equipment to be used by first responders to critical incidents, including terrorist incidents relating to chemical, biological, nuclear, radiological, and explosive weapons. In particular, the development of chemical and biological defense equipment guides for the emergency first responder community is a high priority of NIJ.

The Office of Law Enforcement Standards (OLES) of the National Institute of Standards and Technology (NIST) furnishes technical support to NIJ in the development of standards. OLES subjects existing equipment to laboratory testing and evaluation and conducts research leading to the development of national standards, user guides, and technical reports.

This document covers research conducted by OLES under the sponsorship of NIJ. Other NIJ documents developed by OLES cover protective clothing and equipment, communications systems, emergency equipment, investigative aids, security systems, vehicles, weapons, analytical techniques, and standard reference materials used by the forensic community.

Technical comments and suggestions concerning this guide are invited from all interested parties. They may be addressed to the Office of Law Enforcement Standards, National Institute of Standards and Technology, 100 Bureau Drive, Stop 8102, Gaithersburg, MD 20899-8102.

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## COMMONLY USED SYMBOLS AND ABBREVIATIONS

A	ampere	h	hour	oz.	ounce
ac	alternating current	hf	high frequency	No.	number
AM	amplitude modulation	Hz	hertz	o.d.	outside diameter
cd	candela	i.d.	inside diameter	$\Omega$	ohm
cm	centimeter	in	inch	p.	page
CP	chemically pure	IR	infrared	Pa	pascal
c/s	cycle per second	J	joule	pe	probable error
d	day	L	lambert	pp.	pages
dB	decibel	L	liter	ppm	parts per million
dc	direct current	lb	pound	qt	quart
$^{\circ}$ C	degree Celsius	lbf	pound-force	rad	radian
$^{\circ}$ F	degree Fahrenheit	lbf*in	pound-force inch	rf	radio frequency
dia	diameter	lm	lumen	rh	relative humidity
emf	electromotive force	ln	logarithm (base e)	s	second
eq	equation	log	logarithm (base 10)	SD	standard deviation
F	farad	M	molar	sec.	Section
fc	footcandle	m	meter	SWR	standing wave ratio
fig.	Figure	$\mu$	micron	uhf	ultrahigh frequency
FM	frequency modulation	min	minute	UV	ultraviolet
ft	foot	mm	millimeter	V	volt
ft/s	foot per second	mph	miles per hour	vhf	very high frequency
g	acceleration	m/s	meter per second	W	watt
g	gram	mo	month	$\lambda$	wavelength
gal	gallon	N	newton	wk	week
gr	grain	N*m	newton meter	wt	weight
H	henry	nm	nanometer	yr	year

area=unit<sup>2</sup> (e.g., ft<sup>2</sup>, in<sup>2</sup>, etc.); volume=unit<sup>3</sup> (e.g., ft<sup>3</sup>, m<sup>3</sup>, etc.)

### ACRONYMS SPECIFIC TO THIS DOCUMENT

ASTM	American Society for Testing and Materials	NIOSH	National Institute for Occupational Safety and Health
BW	Biological Warfare	NIST	National Institute of Standards and Technology
CB	Chemical and Biological	NIJ	National Institute of Justice
CBW	Chemical Biological Warfare	NATO	North Atlantic Treaty Organization
CPU	Collective Protective Undergarment	NBC	Nuclear, Biological, and Chemical
CW	Chemical Warfare	OSHA	Occupational Safety and Health Administration
DOD	Department of Defense	PAPR	Powered Air Purifying Respirator
DTAPS	Disposable Toxicological Agent Protective Suit	PF	Protection Factor
DPG	Dugway Proving Grounds	PICS	Personal Ice Cooling System
DRES	Defense Research Establishment Suffield	POL	Petroleum, Oils, and Lubricants
ECBE	Edgewood Chemical Biological Center, Aberdeen Proving Ground, MD	PPE	Personal Protection Equipment
EOD	Explosive Ordnance Disposal	PPV	Positive Pressure Ventilation
EPA	Environmental Protection Agency	PVC	Polyvinyl chloride
ERDEC	U.S. Army Edgewood Research, Development and Engineering Center	SBCCOM	U.S. Army Soldier and Biological Chemical Command
FBI	Federal Bureau of Investigation	SCBA	Self-Contained Breathing Apparatus
FR	Fire Resistant	SCFM	Standard Cubic Feet per Minute
HAZMAT	Hazardous Materials	STB	Super Tropical Bleach
IDLH	Immediately Dangerous to Life and Health	TAP	Toxicological Agent Protective
IAB	Interagency Board	TICs	Toxic Industrial Chemicals
ITAR	International Traffic and Arms Regulations	TIMs	Toxic Industrial Materials
NFPA	National Fire Protection Association	TSWG	Technical Support Working Group

**PREFIXES (See ASTM E380)**

d	deci ( $10^{-1}$ )	da	deka (10)
c	centi ( $10^{-2}$ )	h	hecto ( $10^2$ )
m	milli ( $10^{-3}$ )	k	kilo ( $10^3$ )
$\mu$	micro ( $10^{-6}$ )	M	mega ( $10^6$ )
n	nano ( $10^{-9}$ )	G	giga ( $10^9$ )
p	pico ( $10^{-12}$ )	T	tera ( $10^{12}$ )

**COMMON CONVERSIONS**

0.30480 m = 1 ft	4.448222 N = 1 lbf
25.4 mm = 1 in	1.355818 J = 1 ft·lbf
0.4535924 kg = 1 lb	0.1129848 N m = 1 lbf·in
0.06479891 g = 1 gr	14.59390 N/m = 1 lbf/ft
0.9463529 L = 1 qt	6894.757 Pa = 1 lbf/in <sup>2</sup>
3600000 J = 1 kW·hr	1.609344 km/h = 1 mph
psi = mm of Hg x (1.9339 x 10 <sup>-2</sup> )	
mm of Hg = psi x 51.71	

$$\text{Temperature: } T_{\text{°C}} = (T_{\text{°F}} - 32) \times 5/9$$

$$\text{Temperature: } T_{\text{°F}} = (T_{\text{°C}} \times 9/5) + 32$$



## ABOUT THIS GUIDE

The National Institute of Justice is the focal point for providing support to State and local law enforcement agencies in the development of counterterrorism technology and standards, including technology needs for chemical and biological defense. In recognizing the needs of State and local emergency first responders, the Office of Law Enforcement Standards (OLEs) at the National Institute of Standards and Technology (NIST), supported by the National Institute of Justice (NIJ), the Technical Support Working Group (TSWG), the U.S. Army Soldier and Biological Chemical Command, and the Interagency Board for Equipment Standardization and Interoperability (IAB), is developing chemical and biological defense equipment guides. The guides will focus on chemical and biological equipment in areas of detection, personal protection, decontamination, and communication. This document focuses specifically on assisting the emergency first responder community in the evaluation and purchase of personal protective equipment.

The long range plans are to: (1) subject existing personal protective equipment to laboratory testing and evaluation against a specified protocol, and (2) conduct research leading to the development of multiple series of documents, including national standards, user guides, and technical reports. It is anticipated that the testing, evaluation, and research processes will take several years to complete; therefore, the National Institute of Justice has developed this initial guide for the emergency first responder community in order to facilitate their evaluation and purchase of personal protective equipment.

In conjunction with this program, additional guides, as well as other documents, are being issued in the areas of chemical agent and toxic industrial material detection equipment, biological agent detection equipment, decontamination equipment, and communication equipment.

This Volume, IIB, of the *Guide for the Selection of Personal Protective Equipment for Emergency First Responders*, which focuses on percutaneous (skin) protection other than apparel—herein referred to as garments (specifically suits, coveralls, and ensembles). It contains the information data sheets that were used to support the personal protective equipment evaluation detailed in Volume I. The compilation of data in Volume IIB is the result of the merger of several data acquisition methods used independently by NIST and TSWG.

The information contained in this guide has been obtained through literature searches and market surveys. The vendors were contacted multiple times during the preparation of this guide to ensure data accuracy. In addition, the information is supplemented with test data obtained from other sources (e.g., Department of Defense), if available. It should also be noted that the purpose of this guide is not to provide recommendations but rather to serve as a means to provide information to the reader to compare and contrast commercially available personal protective equipment. *Reference herein to any specific commercial products, processes, or services by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government. The information and statements contained in this guide shall not be used for the purposes of advertising, nor to imply the endorsement or recommendation of the United States Government.*

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Technical comments, suggestions, and product updates are encouraged from interested parties. They may be addressed to the Office of Law Enforcement Standards, National Institute of Standards and Technology, 100 Bureau Drive, Stop 8102, Gaithersburg, MD 20899–8102. It is anticipated that this guide will be updated periodically.

Questions relating to the specific devices included in this document should be addressed directly to the proponent agencies or the equipment manufacturers. Contact information for each equipment item included in this guide can be found in this volume (Vol. IIb).

# **GUIDE FOR THE SELECTION OF PERSONAL PROTECTIVE EQUIPMENT FOR EMERGENCY FIRST RESPONDERS (PERCUTANEOUS PROTECTION—GARMENTS)**

This guide includes information intended to be useful to the emergency first responder community in the selection of personal protective equipment (PPE) that includes chemical and biological protective clothing and respiratory equipment for different applications. This Volume, IIb, of the *Guide for the Selection of Personal Protective Equipment for Emergency First Responders*, includes details on the 180 personal protective equipment items that are referenced in Volume I.

## **1. INTRODUCTION**

The *Guide for the Selection of Personal Protection Equipment for Emergency First Responders* includes information intended to be useful to the emergency first responder community in the selection of PPE (percutaneous and respiratory). Due to the large number of PPE items identified for the guide, the guide is separated into four volumes. Volume I serves as the selection tool for all PPE, while Volume IIa serves as a repository for the respiratory protective data sheets, Volume IIb serves as a repository for the percutaneous protective equipment (garments) data sheets, and Volume IIc serves as a repository for the percutaneous protective equipment (apparel) data sheets.

## **2. IDENTIFICATION OF PERSONAL PROTECTION EQUIPMENT**

An extensive market survey was conducted to identify commercially available personal protective equipment. This market survey encompassed the assessment of past market surveys, identification of new equipment, and interaction with numerous equipment vendors.

### **2.1 Identification of New Equipment**

A variety of sources were utilized to identify commercially available personal protective equipment, including a Commerce Business Daily (CBD) Announcement, literature searches, database searches, Internet searches, technical conferences, and technical contacts. These sources resulted in the identification of 180 personal protective equipment items (garments).

### **2.2 Vendor Contact**

Vendors were contacted three separate times in order to obtain additional product information, as well as to finalize their specific equipment data for inclusion in the guide. An initial contact occurred in the last quarter of 1999, when the manufacturers and vendors were asked to supply detailed information about their products. Each vendor received a facsimile or an electronic mail message that contained the definitions for the data fields. They were asked to supply information on vendor specific personal equipment items corresponding to the data field definitions.

The second contact occurred during the March/April 2000 time period in order to finalize the equipment data sheets and the information contained in the guide. This contact was conducted by facsimile and electronic mail. The vendors were given two weeks to review the information.

The third contact was made during February 2001. Each vendor received a facsimile or an electronic mail message that contained the data sheets for their specific equipment item(s), the selection factors that were developed to assist with the selection and purchase of the most appropriate equipment, and the results of the evaluation of the personal protective equipment against the selection factors. The vendors were asked to review the data sheets and tables for completeness and accuracy of the incorporated data. The vendors were given three weeks to review the information.

### **3. DATA FIELDS**

Appendix E serves as a compendium of commercially available personal protective equipment. Each of the 180 identified personal protective equipment items is detailed within appendix E. Forty-nine data fields, as defined in this section, were used for providing information relating to the personal protective equipment. It is important to note that these data fields were developed using input from the emergency responder community.

The data fields are organized into the following five categories:

- General.
- Operational Parameters.
- Physical Parameters.
- Logistical.
- Special Requirements.

The remainder of this section defines each of the 49 data fields by category.

#### **3.1 General Category**

The General category includes the following data fields:

1. Name.
2. ID #.
3. Technology.
4. Stock Number.
5. Protection Type.
6. Equipment Category.
7. Availability.
8. Current User.
9. Manufacturer.
10. Manufacturer Type.
11. Developer.
12. Source.
13. Certification.

Each of these data fields is defined in more detail in the remainder of this section.

##### **3.1.1 Name**

The Name data field is used to identify the name of the equipment.

##### **3.1.2 ID #**

The ID # data field is for identification purposes only.

### **3.1.3 Technology**

The Technology data field identifies the material or process by which a piece or suite of equipment supplies protection from chemical (CW agents and TIMs), biological agents, and nuclear particulates. Percutaneous protection is generally afforded by material technologies (such as carbon sphere materials, selectively-permeable or semi-permeable materials) or finish/treatment or coating add-ons (such as a water-repellant coating, an electrostatic finish, or a reactive coating).

### **3.1.4 Stock Number**

The Stock Number data field includes the stock identification or national stock number, if the item has one.

### **3.1.5 Protection Type**

The Protection Type data field identifies whether the equipment provides percutaneous (skin) and/or respiratory protection.

### **3.1.6 Equipment Category**

The Equipment Category data field identifies if the equipment is SCBA, PAPR, tethered air, canister, etc.

### **3.1.7 Availability**

The Availability data field refers to how readily available a piece of equipment is (e.g., how long it takes to receive equipment upon purchasing) or availability status of the equipment (e.g., commercial availability).

### **3.1.8 Current User**

The Current User data field is used to identify organizations that are currently using the piece of equipment.

### **3.1.9 Manufacturer**

The Manufacturer data field identifies the company that manufactured the piece of equipment (to include the name, address, telephone number, and point-of-contact).

### **3.1.10 Manufacturer Type**

The Manufacturer Type data field indicates whether the manufacturer is domestic or foreign.

### **3.1.11 Developer**

The Developer data field identifies the organization that developed the item. This may be relevant when the developer is the government and the responsible technical agency may need to be identified.

### **3.1.12 Source**

The Source data field indicates where the equipment information was obtained. Potential sources include past market surveys and Internet web sites.

### **3.1.13 Certification**

The Certification data field identifies the agency certifying the system for use (i.e., OSHA, NIOSH, NFPA, etc.), if any.

## **3.2 Operational Parameters Category**

The Operational Parameters Category includes the following five data fields:

1. Chemical Warfare (CW) Agents Protection.
2. Biological Warfare (BW) Agents Protection.
3. Toxic Industrial Material (TIMs) Protection.
4. Duration of Protection.
5. Recommended Use(s).

Each of these data fields is defined in more detail in the remainder of this section.

### **3.2.1 Chemical Warfare (CW) Agents Protection**

The Chemical Warfare Agents Protection data field indicates the type of chemical warfare (CW) agent. The most common types of classic CW agents are the nerve and blister agents. Nerve agents include GA (Tabun), GB (Sarin), GD (Soman), GF, and VX. Blister agents include H and HD (Sulfur Mustards), HN (Nitrogen Mustard), and L (Lewisite).

### **3.2.2 Biological Warfare (BW) Agents Protection**

The Biological Warfare (BW) Agents Protection data field indicates the type of biological warfare (BW) agent. Classical BW agent types include bacteria (Anthrax), rickettsia (Typhus), toxins (Botulinum Toxin), and viruses (Q Fever).

### **3.2.3 Toxic Industrial Material (TIMs) Protection**

The Toxic Industrial Material (TIMs) Protection data field indicates the type of toxic industrial material (TIM) agent. TIMs are used in a variety of settings such as manufacturing facilities, maintenance areas, and storage areas. TIMs are further characterized by using a high, medium,

or low hazard index. Examples of TIMs are ammonia, carbon monoxide, chlorine, hydrogen cyanide, phosgene, and mineral acids (i.e., hydrochloric acid, sulfuric acid, nitric acid, etc.).

### **3.2.4 Duration of Protection**

The Duration of Protection data field indicates the amount of time the equipment provides adequate protection. Since duration varies depending on the concentration of agent, type of agent, and environmental conditions, duration will be given with respect to specific conditions.

### **3.2.5 Recommended Use(s)**

The Recommended Use(s) data field identifies the areas where the equipment is most likely to be used per vendor or manufacturer recommendation (e.g., tactical operations, crisis management, etc.).

## **3.3 Physical Parameters Category**

The Physical Parameters Category includes the following data fields:

1. Sizes Available.
2. Weight.
3. Package Size and Volume.
4. Power Requirements.
5. Material Type (Percutaneous).
6. Construction Type (Percutaneous).
7. Color.

Each of these data fields is defined in more detail in the remainder of this section.

### **3.3.1 Size Available**

The Size Available data field provides available sizes for an item, to include both male and female when appropriate.

### **3.3.2 Weight**

The Weight data field indicates the total weight of the equipment/system.

### **3.3.3 Package Size and Volume**

The Package Size and Volume data field provides the external dimensions of the system when packaged (for storage and transportability).



### **3.3.4 Power Requirements**

The Power Requirements data field indicates the type of power (ac, dc, etc.) required to operate the equipment. This category applies primarily to respiratory, respiratory support equipment, and heating/cooling systems.

### **3.3.5 Material Type (Percutaneous)**

The Material Type data field refers to the material content of the suit and the level of impermeability (i.e., impermeable, selectively permeable, or permeable). Note if the protective clothing is fire retardant or contains thermoplastic material (could potentially burn the wearer).

### **3.3.6 Construction Type (Percutaneous)**

The Construction Type data field indicates how seams are sealed. This data field applies primarily to percutaneous equipment.

### **3.3.7 Color**

The Color data field indicates if equipment has camouflage capability (signature reduction). Color can help identify job type.

## **3.4 Logistical Parameters Category**

The Logistical Parameters category includes the following data fields:

1. Ease of Use.
2. Consumables.
3. Maintenance Requirements.
4. Shelf Life.
5. Transportability.
6. Operational Limitations.
7. Environmental Conditions.
8. Unit Cost.
9. Maintenance Cost.
10. Warranty.
11. Don/Doff Information.
12. Use/Reuse.
13. Launderability (Percutaneous).
14. Accessories.

Each of these data fields is defined in more detail in the remainder of this section.

### **3.4.1 Ease of Use**

Ease of Use is the mobility and flexibility of an individual while wearing the equipment as well as the compatibility of the equipment with other equipment.

### **3.4.2 Consumables**

Consumables are the supplies used during operation and storage. Examples of consumables are batteries, canisters, hoses, etc.

### **3.4.3 Maintenance Requirements**

Maintenance Requirements are the services and parts required to keep the system at its peak operational readiness (e.g., preventative maintenance) and the frequency of required maintenance (e.g., after use, quarterly, annually, etc.)

### **3.4.4 Shelf Life**

Shelf Life is the length of time a piece of equipment can be stored before it needs to be replaced. Shelf life information should include the recommended storage procedure and any factors that decrease shelf life (e.g., UV, and critical temperature).

### **3.4.5 Transportability**

Transportability is the ability of the equipment to be transported, including any support equipment (e.g., respiratory equipment and heating/cooling systems).

### **3.4.6 Operational Limitations**

Operational Limitations refer to the length of time responders can safely work at various temperatures (i.e., 50 °F, 70 °F, and 90 °F) and the availability/compatibility of cooling systems to help manage heat stress.

### **3.4.7 Environmental Conditions**

Environmental Conditions indicate whether the equipment is designed for use in all common outdoor weather conditions and climates (e.g., rain, snow, extreme temperatures, and humidity) or only under relatively controlled conditions.

### **3.4.8 Unit Cost**

Unit Cost is the cost of a complete system, including support equipment and operating costs (i.e., consumables).

### **3.4.9 Maintenance Cost**

Maintenance Cost is the cost required to maintain the system at its operational readiness. This cost will be based on equipment usage rates.

### **3.4.10 Warranty**

The Warranty is the length of time a piece of equipment is guaranteed by the manufacturer, including the terms of the warranty (parts and labor).

### **3.4.11 Don/Doff Information**

The Don/Doff Information indicates whether the system requires assistance for donning and/or doffing and the average time for this activity.

### **3.4.12 Use/Reuse**

Use/Reuse indicates the need for any part of the equipment to be discarded after use or its ability to be reused. The data field includes the procedures used to decontaminate and/or dispose of used equipment.

### **3.4.13 Launderability (Percutaneous)**

Launderability includes the laundering procedures that are safe for the item, including the number of times the suit can be laundered and remain efficacious. Also, launderability includes any special procedures needed for specific components.

### **3.4.14 Accessories**

Accessories include those items that are provided with the basic equipment.

## **3.5 Special Requirements Category**

The Special Requirements Category includes the following data fields:

1. Training Requirements.
2. Training Available.
3. Manuals Available.
4. Surveillance Testing Requirements.
5. Support Equipment.
6. Testing Information.
7. Applicable Regulations.
8. Health Hazards.
9. Communications Interface Capability.
10. EOD Compatibility.

Each of these data fields is defined in more detail in the remainder of this section.

### **3.5.1 Training Requirements**

The Training Requirements data field refers to the amount of instruction time the operator needs to become proficient in using a piece of equipment.

### **3.5.2 Training Available**

The Training Available data field refers to training available from the manufacturer. This includes any initial training and recertification training that is available.

### **3.5.3 Manuals Available**

The Manuals Available data field indicates the types of manuals available from the manufacturer (e.g., user manuals, training documentation, etc.).

### **3.5.4 Surveillance Testing Requirements**

The Surveillance Testing Requirements data field specifies the testing required to keep a piece of equipment at its operational readiness (e.g., inspecting respiratory masks or suits for holes or tears).

### **3.5.5 Support Equipment**

The Support Equipment data field refers to any additional equipment required to operate the primary unit.

### **3.5.6 Testing Information**

The Testing Information data field includes any test data obtained from the manufacturer and other sources regarding any part of the equipment (e.g., validation testing including materials and ensemble testing such as abrasion, tear, wear, burst, and permeation testing).

### **3.5.7 Applicable Regulations**

The Applicable Regulations data field includes any government and/or safety regulations that may apply to the possession, use, or storage of any part of the system.

### **3.5.8 Health Hazards**

The Health Hazards data field identifies all materials that possess a potential health hazard.

### **3.5.9 Communications Interface Capability**

The Communications Interface Capability data field refers to the ability of the personal protective equipment to interface with a communications system (network capability, hardwire capability, RF communication, etc.).

### **3.5.10 EOD Compatibility**

The EOD Compatibility data field is the ability of the equipment to be used with EOD systems (i.e., suits). For example, a CB protective suit and respirator are required to be worn with an EOD suit in a CB environment.

## **APPENDIX A—REFERENCES**

## APPENDIX A—REFERENCES

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5. *2000 Emergency Response Guidebook, A Guidebook for First Responders During the Initial Phase of a Dangerous Goods/Hazardous Materials Incident*, U.S. Department of Transportation, Research and Special Programs Administration, Tempest Publishing, Alexandria, VA, January 2000.
6. *Potential Military Chemical/Biological Agents and Compounds*, FM 3-9, AFR 355-7, NAVFAC P-467, Army Chemical School, Ft. McClellan, AL, December 12, 1990.
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8. Richard B. Belmonte, *Tests of Level A Suits—Protection Against Chemical and Biological Warfare Agents and Simulants: Executive Summary*, Soldier and Biological Chemical Command (SBCCOM), SCBRD-EN, Aberdeen Proving Ground, MD, June 1998.
9. Robert S. Lindsay, *Test Results of Level B Suits to Challenge by Chemical and Biological Warfare Agents and Simulants: Summary Report*, Soldier and Biological Chemical Command (SBCCOM), AMSSB-REN, Aberdeen Proving Ground, MD, April 1999.

**APPENDIX B—INDEX BY PERCUTANEOUS PROTECTIVE  
EQUIPMENT (GARMENTS) IDENTIFICATION NUMBER**



## *Index by Percutaneous Protective Equipment (Garments) Identification Number*

<i>ID # Percutaneous PPE (Garments) Name</i>	<i>Manufacturer</i>	<i>Page E- #</i>
1 STEPO Chemical Protective Suit	Chemfab Corporation	1
2 Tychem® 10000 Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	4
3 Tychem® 10000 Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	7
4 Tychem® 10000 Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	10
5 Tychem® 10000 Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	13
6 Tychem® 10000 EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	16
7 Tychem® 10000 EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	19
8 Tychem® 10000 EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	22
9 Tychem® 10000 EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	25
10 Tychem® BR Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	28
11 Tychem® BR Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	31
12 Tychem® BR Commander Level A Fully Encapsulating	DuPont Tyvek® Protective Apparel	34
13 Tychem® BR Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	37
14 Tychem® BR EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	40
15 Tychem® BR EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	43
16 Tychem® BR EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	46
17 Tychem® BR EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	49
18 Tychem® TK Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	52
19 Tychem® TK Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	55
20 Tychem® TK Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	58

<b><i>ID # Percutaneous PPE (Garments) Name</i></b>	<b><i>Manufacturer</i></b>	<b><i>Page E- #</i></b>
21 Tychem® TK Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	61
22 Tychem® TK EX Commander Brigade Level A Ensemble, NFPA 1991 certified	DuPont Tyvek® Protective Apparel	64
23 Tychem® TK EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	67
24 Tychem® TK EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	70
25 Tychem® TK EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	73
26 Tychem® TK EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	76
27 Tychem® 10000 Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	79
28 Tychem® 10000 Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	82
29 Tychem® 10000 Deluxe Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	85
30 Tyvek® Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	88
31 Tychem® QC Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	91
32 Tychem® SL Utility Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	94
33 Tychem® SL Utility Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	97
34 Tychem® SL Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	100
35 Tychem® SL Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	103
36 Tychem® QC Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	106
37 Tychem® BR Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	109
38 Tychem® BR Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	112
39 Tychem® BR Deluxe Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	115
40 Tychem® TK Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	118

<i>ID #</i>	<i>Percutaneous PPE (Garments) Name</i>	<i>Manufacturer</i>	<i>Page E- #</i>
41	Tychem <sup>®</sup> TK Level B Fully Encapsulating Suit	DuPont Tyvek <sup>®</sup> Protective Apparel	121
42	Tychem <sup>®</sup> TK Deluxe Level B Fully Encapsulating Suit	DuPont Tyvek <sup>®</sup> Protective Apparel	124
43	Disposable Toxicological Agent Protective Suit (DTAP)/Level A	GEOMET Technologies, Inc.	127
44	Disposable Toxicological Agent Protective Suit (DTAP)/Level B	GEOMET Technologies, Inc.	130
45	EUROLITE NBC-Protection Suit	Goetzloff GmbH	133
46	Chemtursion <sup>®</sup> Suit: Model 13 Level A (SCBA)	ILC Dover, Inc.	136
47	Chemtursion <sup>®</sup> Suit: Model 35 Level A Laboratory Suit	ILC Dover, Inc.	139
48	Chemtursion <sup>®</sup> Suit: Ready 1 Model 91 Level A Limited Use	ILC Dover, Inc.	142
49	Chemtursion <sup>®</sup> Suit: Model 84 Level A Total Encapsulating Suit	ILC Dover, Inc.	145
50	IPE (Individual Protection Equipment)	Irvin Aerospace Canada Ltd.	148
51	Kappler Responder <sup>®</sup> Total Encapsulating Level A Suit (Gas-Tight)	Kappler Safety Group	151
52	Kappler Responder <sup>®</sup> Total Encapsulating Level A Suit	Kappler Safety Group	155
53	Kappler Total Encapsulating Level A suit	Kappler Safety Group	159
54	Kappler Responder <sup>®</sup> Plus Total Encapsulating Level A suit	Kappler Safety Group	163
55	Kappler Responder <sup>®</sup> Total Encapsulating Level A Suit, NFPA 1991 (Vapor Protective)	Kappler Safety Group	167
56	Kappler Total Encapsulating Level B Suit	Kappler Safety Group	171
57	Kappler CPF 3 Total Encapsulating Level B Suit	Kappler Safety Group	175
58	Kappler Responder <sup>®</sup> Total Encapsulating Level B Suit (Liquid Protective)	Kappler Safety Group	179
59	Kappler CPF 4 Total Encapsulating Level B Suit	Kappler Safety Group	183
60	Kappler CPF 4 Total Encapsulating Level B Suit	Kappler Safety Group	187
61	Kappler Responder <sup>®</sup> Total Encapsulating Level B Suit (liquid protective)	Kappler Safety Group	191

<i>ID #</i>	<i>Percutaneous PPE (Garments) Name</i>	<i>Manufacturer</i>	<i>Page E- #</i>
62	Kappler Responder <sup>®</sup> CSM OSHA Level A	Kappler Safety Group	195
63	Kappler Responder <sup>®</sup> CSM OSHA Level B	Kappler Safety Group	198
64	Lakeland Tychem <sup>®</sup> 10000 NFPA Certified Level A Ensemble	Lakeland Industries, Inc.	201
65	Lakeland Tychem <sup>®</sup> 10000 Level A Ensemble	Lakeland Industries, Inc.	204
66	Lakeland Tychem <sup>®</sup> 10000 Economy Level A Encapsulated Suit	Lakeland Industries, Inc.	207
67	Lakeland Tychem <sup>®</sup> 10000 Economy Level A Encapsulated Suit	Lakeland Industries, Inc.	210
68	Lakeland Tychem <sup>®</sup> 10000 Level A Suit	Lakeland Industries, Inc.	213
69	Lakeland Tychem <sup>®</sup> 9400 Level B Encapsulated Suit	Lakeland Industries, Inc.	216
70	Lakeland Tychem <sup>®</sup> 9400 Level B Encapsulated Suit	Lakeland Industries, Inc.	219
71	Lakeland Tychem <sup>®</sup> SL Level B Encapsulated Suit	Lakeland Industries, Inc.	222
72	Lakeland Tychem <sup>®</sup> 10000 Level B Encapsulated Suit	Lakeland Industries, Inc.	225
73	Lakeland Tychem <sup>®</sup> 10000 Level B Coverall	Lakeland Industries, Inc.	228
74	C-Cover S-89 One Piece NBC Protective Overgarment	New Pac Safety AB	231
75	C-Cover S/89N	New Pac Safety AB	234
76	C-Cover Dress S-97 NBC Protective Overgarment	New Pac Safety AB	237
77	Saratoga HAMMER Suit	Tex-Shield, Inc.	240
78	Saratoga Joint Service Lightweight Integrated Suit (JSLIST)	Tex-Shield, Inc.	243
79	Trelchem <sup>®</sup> High Performance Suit (HPS) Level A	Trelleborg Industries	246
80	Trelchem <sup>®</sup> TLU (Limited Use) Level A	Trelleborg Industries	249
81	Trelchem <sup>®</sup> Vapor Barrier Suit (VPI) Level A	Trelleborg Industries	252
82	Trelchem <sup>®</sup> Vapor Barrier Suit (VPS) Level A	Trelleborg Industries	255
83	Disposable Toxicological Agent Protective Suit (DTAPS)/Level C1	GEOMET Technologies, Inc.	258
84	Disposable Toxicological Agent Protective Suit (DTAPS)/Level C2	GEOMET Technologies, Inc.	261

<i>ID # Percutaneous PPE (Garments) Name</i>	<i>Manufacturer</i>	<i>Page E- #</i>
85 Demilitarization Protective Ensembles (DPEs)	Vinyl Technology, Inc.	264
86 "Hot" Operation: Air-Fed Garments	Vinyl Technology, Inc.	267
87 CCA_DuPont Tyvek® F Coveralls	CCA and DuPont Europe	269
88 Tychem® 10000 Coverall	DuPont Tyvek® Protective Apparel	272
89 Tychem® 10000 Coverall	DuPont Tyvek® Protective Apparel	275
90 Tychem® 10000 Coverall	DuPont Tyvek® Protective Apparel	278
91 Tychem® 10000 Coverall	DuPont Tyvek® Protective Apparel	281
92 Tychem® 10000 Coverall	DuPont Tyvek® Protective Apparel	284
93 Tychem® 10000 Coverall	DuPont Tyvek® Protective Apparel	287
94 Tychem® 10000 Coverall	DuPont Tyvek® Protective Apparel	290
95 Tyvek® Coverall	DuPont Tyvek® Protective Apparel	293
96 Tyvek® Coverall	DuPont Tyvek® Protective Apparel	296
97 Tyvek® Coverall	DuPont Tyvek® Protective Apparel	299
98 Tyvek® Coverall	DuPont Tyvek® Protective Apparel	302
99 Tyvek® Coverall	DuPont Tyvek® Protective Apparel	305
100 Tychem® QC Coverall	DuPont Tyvek® Protective Apparel	308
101 Tychem® QC Coverall	DuPont Tyvek® Protective Apparel	311
102 Tychem® QC Coverall	DuPont Tyvek® Protective Apparel	314
103 Tychem® QC Coverall	DuPont Tyvek® Protective Apparel	317
104 Tychem® QC Coverall	DuPont Tyvek® Protective Apparel	320
105 Tychem® QC Coverall	DuPont Tyvek® Protective Apparel	323
106 Tychem® QC Coverall	DuPont Tyvek® Protective Apparel	326
107 Tychem® QC Coverall	DuPont Tyvek® Protective Apparel	329
108 Tychem® QC Coverall	DuPont Tyvek® Protective Apparel	332
109 Tychem® QC Coverall	DuPont Tyvek® Protective Apparel	335
110 Tychem® SL Coverall	DuPont Tyvek® Protective Apparel	338
111 Tychem® SL Coverall	DuPont Tyvek® Protective Apparel	341
112 Tychem® SL Coverall	DuPont Tyvek® Protective Apparel	344
113 Tychem® SL Coverall	DuPont Tyvek® Protective Apparel	347
114 Tychem® SL Coverall	DuPont Tyvek® Protective Apparel	350
115 Tychem® SL Coverall	DuPont Tyvek® Protective Apparel	353
116 Tychem® SL Coverall	DuPont Tyvek® Protective Apparel	356
117 Tychem® SL Coverall	DuPont Tyvek® Protective Apparel	359
118 Tychem® SL Coverall	DuPont Tyvek® Protective Apparel	362

<i>ID # Percutaneous PPE (Garments) Name</i>	<i>Manufacturer</i>	<i>Page E- #</i>
119 Tychem <sup>®</sup> SL Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	365
120 Tychem <sup>®</sup> QC Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	368
121 Tychem <sup>®</sup> QC Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	371
122 Tychem <sup>®</sup> QC Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	374
123 Tychem <sup>®</sup> QC Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	377
124 Tychem <sup>®</sup> QC Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	380
125 Tychem <sup>®</sup> BR Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	383
126 Tychem <sup>®</sup> BR Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	386
127 Tychem <sup>®</sup> BR Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	389
128 Tychem <sup>®</sup> BR Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	392
129 Tychem <sup>®</sup> BR Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	395
130 Tychem <sup>®</sup> BR Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	398
131 Tychem <sup>®</sup> BR Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	401
132 Tychem <sup>®</sup> TK Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	404
133 Tychem <sup>®</sup> TK Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	407
134 Tychem <sup>®</sup> TK Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	410
135 Tychem <sup>®</sup> TK Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	413
136 Tychem <sup>®</sup> TK Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	416
137 Tychem <sup>®</sup> TK Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	419
138 Tychem <sup>®</sup> TK Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	422
139 Kappler Coverall	Kappler Safety Group	425
140 Kappler Coverall	Kappler Safety Group	428
141 Kappler CPF 3 Coverall	Kappler Safety Group	432
142 Kappler Responder <sup>®</sup> Level B Coverall	Kappler Safety Group	436
143 Kappler Responder <sup>®</sup> Level B Coverall	Kappler Safety Group	440
144 Kappler Responder <sup>®</sup> Level B Coverall	Kappler Safety Group	444
145 Kappler Ensemble, EPA Level A	Kappler Safety Group	448
146 Kappler CPF 4 Coverall	Kappler Safety Group	451
147 Kappler CPF 3 Coverall	Kappler Safety Group	455
148 Kappler CPF 4 Coverall	Kappler Safety Group	459
149 Kappler CPF 3 Coverall	Kappler Safety Group	463
150 Lakeland Tychem <sup>®</sup> 10000 Level B Coverall	Lakeland Industries, Inc.	467
151 Lakeland Tychem <sup>®</sup> 10000 Level B Coverall	Lakeland Industries, Inc.	470

<i>ID #</i>	<i>Percutaneous PPE (Garments) Name</i>	<i>Manufacturer</i>	<i>Page E- #</i>
152	Lakeland Tychem® 10000 Level B Coverall	Lakeland Industries, Inc.	473
153	Lakeland Tychem® 10000 Level B Coverall	Lakeland Industries, Inc.	476
154	Lakeland Tychem® 10000 Level B Coverall	Lakeland Industries, Inc.	479
155	Lakeland Tychem® 10000 Level B Coverall	Lakeland Industries, Inc.	482
156	Lakeland Tychem® 10000 Level B Coverall	Lakeland Industries, Inc.	485
157	Lakeland Tychem® 10000 Level B Coverall	Lakeland Industries, Inc.	488
158	Lakeland Tyvek® QC Level B Coverall	Lakeland Industries, Inc.	491
159	Lakeland Tyvek QC Level B Coverall	Lakeland Industries, Inc.	494
160	Lakeland Tyvek® QC Level B Coverall	Lakeland Industries, Inc.	497
161	Lakeland Tyvek® QC Level B Coverall	Lakeland Industries, Inc.	500
162	Lakeland Tyvek® QC Level B Coverall	Lakeland Industries, Inc.	503
163	Lakeland Tyvek® QC Level B Coverall	Lakeland Industries, Inc.	506
164	Lakeland Tychem® SL Level B Coverall	Lakeland Industries, Inc.	509
165	Lakeland Tychem® SL Level B Coverall	Lakeland Industries, Inc.	512
166	Lakeland Tychem® SL Level B Coverall	Lakeland Industries, Inc.	515
167	Lakeland Tychem® SL Level B Coverall	Lakeland Industries, Inc.	518
168	Lakeland Tychem® SL Level B Coverall	Lakeland Industries, Inc.	521
169	Lakeland Tychem® SL Level B Coverall	Lakeland Industries, Inc.	524
170	Lakeland Tychem® 9400 Level B Coverall	Lakeland Industries, Inc.	527
171	Lakeland Tychem® 9400 Level B Coverall	Lakeland Industries, Inc.	530
172	Lakeland Tychem® 9400 Level B Coverall	Lakeland Industries, Inc.	533
173	Lakeland Tychem® 9400 Level B Coverall	Lakeland Industries, Inc.	536
174	Lakeland Tychem® 9400 Level B Coverall	Lakeland Industries, Inc.	539
175	Chemical Protective Overgarments (CPO)	LANX Fabric Systems	542
176	U.S. Air Force Saratoga CWU-66/P Coverall	Tex-Shield, Inc.	545
177	CB Incident Emergency Escape Kit	EAI Corporation	548
178	SEA Tyvek® “F” Suit Level B	SEA	551
179	NewPac CEMI COVER DRESS C/91	New Pac Safety AB	554
180	NewPac First Responder PPE Kit	New Pac Safety AB	557

**APPENDIX C—INDEX BY PERCUTANEOUS PROTECTIVE  
EQUIPMENT (GARMENTS) NAME**



## *Index by Percutaneous Protective Equipment (Garments) Name*

<i>Percutaneous PPE (Garments) Name</i>	<i>Manufacturer</i>	<i>Page</i>	
		<i>ID #</i>	<i>E- #</i>
CB Incident Emergency Escape Kit	EAI Corporation	177	548
CCA_DuPont Tyvek® F Coveralls	CCA and DuPont Europe	87	269
C-Cover Dress S-97 NBC Protective Overgarment	New Pac Safety AB	76	237
C-Cover S/89N	New Pac Safety AB	75	234
C-Cover S-89 One Piece NBC Protective Overgarment	New Pac Safety AB	74	231
Chemical Protective Overgarments (CPO)	LANX Fabric Systems	175	542
Chemtursion® Suit: Model 13 Level A (SCBA)	ILC Dover, Inc.	46	136
Chemtursion® Suit: Model 35 Level A Laboratory Suit	ILC Dover, Inc.	47	139
Chemtursion® Suit: Model 84 Level A Total Encapsulating Suit	ILC Dover, Inc.	49	145
Chemtursion® Suit: Ready 1 Model 91 Level A Limited Use	ILC Dover, Inc.	48	142
Demilitarization Protective Ensembles (DPEs)	Vinyl Technology, Inc.	85	264
Disposable Toxicological Agent Protective Suit (DTAP)/Level A	GEOMET Technologies, Inc.	43	127
Disposable Toxicological Agent Protective Suit (DTAP)/Level B	GEOMET Technologies, Inc.	44	130
Disposable Toxicological Agent Protective Suit (DTAPS)/Level C1	GEOMET Technologies, Inc.	83	258
Disposable Toxicological Agent Protective Suit (DTAPS)/Level C2	GEOMET Technologies, Inc.	84	261
EUROLITE NBC-Protection Suit	Goetzloff GmbH	45	133
"Hot" Operation: Air-Fed Garments	Vinyl Technology, Inc.	86	267
IPE (Individual Protection Equipment)	Irvin Aerospace Canada Ltd.	50	148
Kappler Coverall	Kappler Safety Group	139	425
Kappler Coverall	Kappler Safety Group	140	428
Kappler CPF 3 Coverall	Kappler Safety Group	141	432
Kappler CPF 3 Coverall	Kappler Safety Group	147	455
Kappler CPF 3 Coverall	Kappler Safety Group	149	463
Kappler CPF 3 Total Encapsulating Level B Suit	Kappler Safety Group	57	175
Kappler CPF 4 Coverall	Kappler Safety Group	146	451
Kappler CPF 4 Coverall	Kappler Safety Group	148	459

<i><b>Percutaneous PPE (Garments) Name</b></i>	<i><b>Manufacturer</b></i>	<i><b>Page</b></i>	
		<i><b>ID #</b></i>	<i><b>E- #</b></i>
Kappler CPF 4 Total Encapsulating Level B Suit	Kappler Safety Group	59	183
Kappler CPF 4 Total Encapsulating Level B Suit	Kappler Safety Group	60	187
Kappler Ensemble, EPA Level A	Kappler Safety Group	145	448
Kappler Responder <sup>®</sup> CSM OSHA Level A	Kappler Safety Group	62	195
Kappler Responder <sup>®</sup> CSM OSHA Level B	Kappler Safety Group	63	198
Kappler Responder <sup>®</sup> Level B Coverall	Kappler Safety Group	142	436
Kappler Responder <sup>®</sup> Level B Coverall	Kappler Safety Group	143	440
Kappler Responder <sup>®</sup> Level B Coverall	Kappler Safety Group	144	444
Kappler Responder <sup>®</sup> Plus Total Encapsulating Level A suit	Kappler Safety Group	54	163
Kappler Responder <sup>®</sup> Total Encapsulating Level A Suit	Kappler Safety Group	52	155
Kappler Responder <sup>®</sup> Total Encapsulating Level A Suit (Gas-tight)	Kappler Safety Group	51	151
Kappler Responder <sup>®</sup> Total Encapsulating Level A Suit, NFPA 1991 (Vapor Protective)	Kappler Safety Group	55	167
Kappler Responder <sup>®</sup> Total Encapsulating Level B Suit (Liquid Protective)	Kappler Safety Group	58	179
Kappler Responder <sup>®</sup> Total Encapsulating Level B Suit (liquid protective)	Kappler Safety Group	61	191
Kappler Total Encapsulating Level A suit	Kappler Safety Group	53	159
Kappler Total Encapsulating Level B Suit	Kappler Safety Group	56	171
Lakeland Tychem <sup>®</sup> 10000 Economy Level A Encapsulated Suit	Lakeland Industries, Inc.	66	207
Lakeland Tychem <sup>®</sup> 10000 Economy Level A Encapsulated Suit	Lakeland Industries, Inc.	67	210
Lakeland Tychem <sup>®</sup> 10000 Level A Ensemble	Lakeland Industries, Inc.	65	204
Lakeland Tychem <sup>®</sup> 10000 Level A Suit	Lakeland Industries, Inc.	68	213
Lakeland Tychem <sup>®</sup> 10000 Level B Coverall	Lakeland Industries, Inc.	73	228
Lakeland Tychem <sup>®</sup> 10000 Level B Coverall	Lakeland Industries, Inc.	150	467
Lakeland Tychem <sup>®</sup> 10000 Level B Coverall	Lakeland Industries, Inc.	151	470
Lakeland Tychem <sup>®</sup> 10000 Level B Coverall	Lakeland Industries, Inc.	152	473
Lakeland Tychem <sup>®</sup> 10000 Level B Coverall	Lakeland Industries, Inc.	153	476
Lakeland Tychem <sup>®</sup> 10000 Level B Coverall	Lakeland Industries, Inc.	154	479
Lakeland Tychem <sup>®</sup> 10000 Level B Coverall	Lakeland Industries, Inc.	155	482
Lakeland Tychem <sup>®</sup> 10000 Level B Coverall	Lakeland Industries, Inc.	156	485

<i>Percutaneous PPE (Garments) Name</i>	<i>Manufacturer</i>	<i>Page</i>	
		<i>ID #</i>	<i>E- #</i>
Lakeland Tychem <sup>®</sup> 10000 Level B Coverall	Lakeland Industries, Inc.	157	488
Lakeland Tychem <sup>®</sup> 10000 Level B Encapsulated Suit	Lakeland Industries, Inc.	72	225
Lakeland Tychem <sup>®</sup> 10000 NFPA Certified Level A Ensemble	Lakeland Industries, Inc.	64	201
Lakeland Tychem <sup>®</sup> 9400 Level B Coverall	Lakeland Industries, Inc.	170	527
Lakeland Tychem <sup>®</sup> 9400 Level B Coverall	Lakeland Industries, Inc.	171	530
Lakeland Tychem <sup>®</sup> 9400 Level B Coverall	Lakeland Industries, Inc.	172	533
Lakeland Tychem <sup>®</sup> 9400 Level B Coverall	Lakeland Industries, Inc.	173	536
Lakeland Tychem <sup>®</sup> 9400 Level B Coverall	Lakeland Industries, Inc.	174	539
Lakeland Tychem <sup>®</sup> 9400 Level B Encapsulated Suit	Lakeland Industries, Inc.	69	216
Lakeland Tychem <sup>®</sup> 9400 Level B Encapsulated Suit	Lakeland Industries, Inc.	70	219
Lakeland Tychem <sup>®</sup> SL Level B Coverall	Lakeland Industries, Inc.	164	509
Lakeland Tychem <sup>®</sup> SL Level B Coverall	Lakeland Industries, Inc.	165	512
Lakeland Tychem <sup>®</sup> SL Level B Coverall	Lakeland Industries, Inc.	166	515
Lakeland Tychem <sup>®</sup> SL Level B Coverall	Lakeland Industries, Inc.	167	518
Lakeland Tychem <sup>®</sup> SL Level B Coverall	Lakeland Industries, Inc.	168	521
Lakeland Tychem <sup>®</sup> SL Level B Coverall	Lakeland Industries, Inc.	169	524
Lakeland Tychem <sup>®</sup> SL Level B Encapsulated Suit	Lakeland Industries, Inc.	71	222
Lakeland Tyvek QC Level B Coverall	Lakeland Industries, Inc.	159	494
Lakeland Tyvek <sup>®</sup> QC Level B Coverall	Lakeland Industries, Inc.	158	491
Lakeland Tyvek <sup>®</sup> QC Level B Coverall	Lakeland Industries, Inc.	160	497
Lakeland Tyvek <sup>®</sup> QC Level B Coverall	Lakeland Industries, Inc.	161	500
Lakeland Tyvek <sup>®</sup> QC Level B Coverall	Lakeland Industries, Inc.	162	503
Lakeland Tyvek <sup>®</sup> QC Level B Coverall	Lakeland Industries, Inc.	163	506
Saratoga HAMMER Suit	Tex-Shield, Inc.	77	240
Saratoga Joint Service Lightweight Integrated Suit (JSLIST)	Tex-Shield, Inc.	78	243
STEPO Chemical Protective Suit	Chemfab Corporation	1	1
Trellchem <sup>®</sup> High Performance Suit (HPS) Level A	Trelleborg Industries	79	246
Trellchem <sup>®</sup> TLU (Limited Use) Level A	Trelleborg Industries	80	249
Trellchem <sup>®</sup> Vapor Barrier Suit (VPI) Level A	Trelleborg Industries	81	252

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Trellechem® Vapor Barrier Suit (VPS) Level A	Trelleborg Industries	82	255
Tychem® 10000 Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	2	4
Tychem® 10000 Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	3	7
Tychem® 10000 Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	4	10
Tychem® 10000 Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	5	13
Tychem® 10000 Coverall	DuPont Tyvek® Protective Apparel	88	272
Tychem® 10000 Coverall	DuPont Tyvek® Protective Apparel	89	275
Tychem® 10000 Coverall	DuPont Tyvek® Protective Apparel	90	278
Tychem® 10000 Coverall	DuPont Tyvek® Protective Apparel	91	281
Tychem® 10000 Coverall	DuPont Tyvek® Protective Apparel	92	284
Tychem® 10000 Coverall	DuPont Tyvek® Protective Apparel	93	287
Tychem® 10000 Coverall	DuPont Tyvek® Protective Apparel	94	290
Tychem® 10000 Deluxe Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	29	85
Tychem® 10000 EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	6	16
Tychem® 10000 EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	7	19
Tychem® 10000 EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	8	22
Tychem® 10000 EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	9	25
Tychem® 10000 Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	27	79
Tychem® 10000 Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	28	82
Tychem® BR Commander Level A Fully Encapsulating	DuPont Tyvek® Protective Apparel	12	34

<i>Percutaneous PPE (Garments) Name</i>	<i>Manufacturer</i>	<i>Page</i>	
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Tychem® BR Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	10	28
Tychem® BR Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	11	31
Tychem® BR Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	13	37
Tychem® BR Coverall	DuPont Tyvek® Protective Apparel	125	383
Tychem® BR Coverall	DuPont Tyvek® Protective Apparel	126	386
Tychem® BR Coverall	DuPont Tyvek® Protective Apparel	127	389
Tychem® BR Coverall	DuPont Tyvek® Protective Apparel	128	392
Tychem® BR Coverall	DuPont Tyvek® Protective Apparel	129	395
Tychem® BR Coverall	DuPont Tyvek® Protective Apparel	130	398
Tychem® BR Coverall	DuPont Tyvek® Protective Apparel	131	401
Tychem® BR Deluxe Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	39	115
Tychem® BR EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	14	40
Tychem® BR EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	15	43
Tychem® BR EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	16	46
Tychem® BR EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	17	49
Tychem® BR Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	37	109
Tychem® BR Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	38	112
Tychem® QC Coverall	DuPont Tyvek® Protective Apparel	104	320
Tychem® QC Coverall	DuPont Tyvek® Protective Apparel	100	308
Tychem® QC Coverall	DuPont Tyvek® Protective Apparel	101	311

<i>Percutaneous PPE (Garments) Name</i>	<i>Manufacturer</i>	<i>Page</i>	
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Tychem <sup>®</sup> QC Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	102	314
Tychem <sup>®</sup> QC Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	103	317
Tychem <sup>®</sup> QC Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	105	323
Tychem <sup>®</sup> QC Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	106	326
Tychem <sup>®</sup> QC Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	107	329
Tychem <sup>®</sup> QC Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	108	332
Tychem <sup>®</sup> QC Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	109	335
Tychem <sup>®</sup> QC Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	120	368
Tychem <sup>®</sup> QC Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	121	371
Tychem <sup>®</sup> QC Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	122	374
Tychem <sup>®</sup> QC Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	123	377
Tychem <sup>®</sup> QC Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	124	380
Tychem <sup>®</sup> QC Level B Fully Encapsulating Suit	DuPont Tyvek <sup>®</sup> Protective Apparel	31	91
Tychem <sup>®</sup> QC Level B Fully Encapsulating Suit	DuPont Tyvek <sup>®</sup> Protective Apparel	36	106
Tychem <sup>®</sup> SL Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	110	338
Tychem <sup>®</sup> SL Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	111	341
Tychem <sup>®</sup> SL Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	112	344
Tychem <sup>®</sup> SL Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	113	347
Tychem <sup>®</sup> SL Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	114	350
Tychem <sup>®</sup> SL Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	115	353
Tychem <sup>®</sup> SL Coverall	DuPont Tyvek <sup>®</sup> Protective Apparel	116	356

<i>Percutaneous PPE (Garments) Name</i>	<i>Manufacturer</i>	<i>Page</i>	
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Tychem® SL Coverall	DuPont Tyvek® Protective Apparel	117	359
Tychem® SL Coverall	DuPont Tyvek® Protective Apparel	118	362
Tychem® SL Coverall	DuPont Tyvek® Protective Apparel	119	365
Tychem® SL Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	34	100
Tychem® SL Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	35	103
Tychem® SL Utility Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	32	94
Tychem® SL Utility Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	33	97
Tychem® TK Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	18	52
Tychem® TK Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	19	55
Tychem® TK Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	20	58
Tychem® TK Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	21	61
Tychem® TK Coverall	DuPont Tyvek® Protective Apparel	132	404
Tychem® TK Coverall	DuPont Tyvek® Protective Apparel	133	407
Tychem® TK Coverall	DuPont Tyvek® Protective Apparel	134	410
Tychem® TK Coverall	DuPont Tyvek® Protective Apparel	135	413
Tychem® TK Coverall	DuPont Tyvek® Protective Apparel	136	416
Tychem® TK Coverall	DuPont Tyvek® Protective Apparel	137	419
Tychem® TK Coverall	DuPont Tyvek® Protective Apparel	138	422
Tychem® TK Deluxe Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	42	124
Tychem® TK EX Commander Brigade Level A Ensemble, NFPA 1991 certified	DuPont Tyvek® Protective Apparel	22	64
Tychem® TK EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	23	67

<i><b>Percutaneous PPE (Garments) Name</b></i>	<i><b>Manufacturer</b></i>	<i><b>Page</b></i>	
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Tychem® TK EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	24	70
Tychem® TK EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	25	73
Tychem® TK EX Commander Level A Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	26	76
Tychem® TK Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	40	118
Tychem® TK Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	41	121
Tyvek® Coverall	DuPont Tyvek® Protective Apparel	95	293
Tyvek® Coverall	DuPont Tyvek® Protective Apparel	96	296
Tyvek® Coverall	DuPont Tyvek® Protective Apparel	97	299
Tyvek® Coverall	DuPont Tyvek® Protective Apparel	98	302
Tyvek® Coverall	DuPont Tyvek® Protective Apparel	99	305
Tyvek® Level B Fully Encapsulating Suit	DuPont Tyvek® Protective Apparel	30	88
US Air Force Saratoga CWU-66/P Coverall	Tex-Shield, Inc.	176	545
SEA Tyvek® “F” Suit Level B	SEA	178	551
NewPac CEMI COVER DRESS C/91	New Pac Safety AB	179	554
NewPac First Responder PPE Kit	New Pac Safety AB	180	557



**APPENDIX D—INDEX BY PERCUTANEOUS PROTECTIVE  
EQUIPMENT (GARMENTS) MANUFACTURER**

## *Index by Percutaneous Protective Equipment (Garments) Manufacturer*

<i>Manufacturer</i>	<i>Percutaneous PPE (Garments) Name</i>	<i>Page</i>
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CCA and DuPont Europe	CCA_DuPont Tyvek® F Coveralls	87 269
Chemfab Corporation	STEPO Chemical Protective Suit	1 1
DuPont Tyvek® Protective Apparel	Tychem® 10000 Commander Level A Fully Encapsulating Suit	2 4
DuPont Tyvek® Protective Apparel	Tychem® 10000 Commander Level A Fully Encapsulating Suit	3 7
DuPont Tyvek® Protective Apparel	Tychem® 10000 Commander Level A Fully Encapsulating Suit	4 10
DuPont Tyvek® Protective Apparel	Tychem® 10000 Commander Level A Fully Encapsulating Suit	5 13
DuPont Tyvek® Protective Apparel	Tychem® 10000 Coverall	88 272
DuPont Tyvek® Protective Apparel	Tychem® 10000 Coverall	89 275
DuPont Tyvek® Protective Apparel	Tychem® 10000 Coverall	90 278
DuPont Tyvek® Protective Apparel	Tychem® 10000 Coverall	91 281
DuPont Tyvek® Protective Apparel	Tychem® 10000 Coverall	92 284
DuPont Tyvek® Protective Apparel	Tychem® 10000 Coverall	93 287
DuPont Tyvek® Protective Apparel	Tychem® 10000 Coverall	94 290
DuPont Tyvek® Protective Apparel	Tychem® 10000 Deluxe Level B Fully Encapsulating Suit	29 85
DuPont Tyvek® Protective Apparel	Tychem® 10000 EX Commander Level A Fully Encapsulating Suit	6 16
DuPont Tyvek® Protective Apparel	Tychem® 10000 EX Commander Level A Fully Encapsulating Suit	7 19
DuPont Tyvek® Protective Apparel	Tychem® 10000 EX Commander Level A Fully Encapsulating Suit	8 22
DuPont Tyvek® Protective Apparel	Tychem® 10000 EX Commander Level A Fully Encapsulating Suit	9 25
DuPont Tyvek® Protective Apparel	Tychem® 10000 Level B Fully Encapsulating Suit	27 79
DuPont Tyvek® Protective Apparel	Tychem® 10000 Level B Fully Encapsulating Suit	28 82
DuPont Tyvek® Protective Apparel	Tychem® BR Commander Level A Fully Encapsulating	12 34
DuPont Tyvek® Protective Apparel	Tychem® BR Commander Level A Fully Encapsulating Suit	10 28
DuPont Tyvek® Protective Apparel	Tychem® BR Commander Level A Fully Encapsulating Suit	11 31
DuPont Tyvek® Protective Apparel	Tychem® BR Commander Level A Fully Encapsulating Suit	13 37

<i>Manufacturer</i>	<i>Percutaneous PPE (Garments) Name</i>	<i>ID #</i>	<i>Page E- #</i>
DuPont Tyvek® Protective Apparel	Tychem® BR Coverall	125	383
DuPont Tyvek® Protective Apparel	Tychem® BR Coverall	126	386
DuPont Tyvek® Protective Apparel	Tychem® BR Coverall	127	389
DuPont Tyvek® Protective Apparel	Tychem® BR Coverall	128	392
DuPont Tyvek® Protective Apparel	Tychem® BR Coverall	129	395
DuPont Tyvek® Protective Apparel	Tychem® BR Coverall	130	398
DuPont Tyvek® Protective Apparel	Tychem® BR Coverall	131	401
DuPont Tyvek® Protective Apparel	Tychem® BR Deluxe Level B Fully Encapsulating Suit	39	115
DuPont Tyvek® Protective Apparel	Tychem® BR EX Commander Level A Fully Encapsulating Suit	14	40
DuPont Tyvek® Protective Apparel	Tychem® BR EX Commander Level A Fully Encapsulating Suit	15	43
DuPont Tyvek® Protective Apparel	Tychem® BR EX Commander Level A Fully Encapsulating Suit	16	46
DuPont Tyvek® Protective Apparel	Tychem® BR EX Commander Level A Fully Encapsulating Suit	17	49
DuPont Tyvek® Protective Apparel	Tychem® BR Level B Fully Encapsulating Suit	37	109
DuPont Tyvek® Protective Apparel	Tychem® BR Level B Fully Encapsulating Suit	38	112
DuPont Tyvek® Protective Apparel	Tychem® QC Coverall	104	320
DuPont Tyvek® Protective Apparel	Tychem® QC Coverall	100	308
DuPont Tyvek® Protective Apparel	Tychem® QC Coverall	101	311
DuPont Tyvek® Protective Apparel	Tychem® QC Coverall	102	314
DuPont Tyvek® Protective Apparel	Tychem® QC Coverall	103	317
DuPont Tyvek® Protective Apparel	Tychem® QC Coverall	105	323
DuPont Tyvek® Protective Apparel	Tychem® QC Coverall	106	326
DuPont Tyvek® Protective Apparel	Tychem® QC Coverall	107	329
DuPont Tyvek® Protective Apparel	Tychem® QC Coverall	108	332
DuPont Tyvek® Protective Apparel	Tychem® QC Coverall	109	335
DuPont Tyvek® Protective Apparel	Tychem® QC Coverall	120	368
DuPont Tyvek® Protective Apparel	Tychem® QC Coverall	121	371
DuPont Tyvek® Protective Apparel	Tychem® QC Coverall	122	374
DuPont Tyvek® Protective Apparel	Tychem® QC Coverall	123	377
DuPont Tyvek® Protective Apparel	Tychem® QC Coverall	124	380

<i>Manufacturer</i>	<i>Percutaneous PPE (Garments) Name</i>	<i>ID #</i>	<i>Page E- #</i>
DuPont Tyvek® Protective Apparel	Tychem® QC Level B Fully Encapsulating Suit	31	91
DuPont Tyvek® Protective Apparel	Tychem® QC Level B Fully Encapsulating Suit	36	106
DuPont Tyvek® Protective Apparel	Tychem® SL Coverall	110	338
DuPont Tyvek® Protective Apparel	Tychem® SL Coverall	111	341
DuPont Tyvek® Protective Apparel	Tychem® SL Coverall	112	344
DuPont Tyvek® Protective Apparel	Tychem® SL Coverall	113	347
DuPont Tyvek® Protective Apparel	Tychem® SL Coverall	114	350
DuPont Tyvek® Protective Apparel	Tychem® SL Coverall	115	353
DuPont Tyvek® Protective Apparel	Tychem® SL Coverall	116	356
DuPont Tyvek® Protective Apparel	Tychem® SL Coverall	117	359
DuPont Tyvek® Protective Apparel	Tychem® SL Coverall	118	362
DuPont Tyvek® Protective Apparel	Tychem® SL Coverall	119	365
DuPont Tyvek® Protective Apparel	Tychem® SL Level B Fully Encapsulating Suit	34	100
DuPont Tyvek® Protective Apparel	Tychem® SL Level B Fully Encapsulating Suit	35	103
DuPont Tyvek® Protective Apparel	Tychem® SL Utility Level B Fully Encapsulating Suit	32	94
DuPont Tyvek® Protective Apparel	Tychem® SL Utility Level B Fully Encapsulating Suit	33	97
DuPont Tyvek® Protective Apparel	Tychem® TK Commander Level A Fully Encapsulating Suit	18	52
DuPont Tyvek® Protective Apparel	Tychem® TK Commander Level A Fully Encapsulating Suit	19	55
DuPont Tyvek® Protective Apparel	Tychem® TK Commander Level A Fully Encapsulating Suit	20	58
DuPont Tyvek® Protective Apparel	Tychem® TK Commander Level A Fully Encapsulating Suit	21	61
DuPont Tyvek® Protective Apparel	Tychem® TK Coverall	132	404
DuPont Tyvek® Protective Apparel	Tychem® TK Coverall	133	407
DuPont Tyvek® Protective Apparel	Tychem® TK Coverall	134	410
DuPont Tyvek® Protective Apparel	Tychem® TK Coverall	135	413
DuPont Tyvek® Protective Apparel	Tychem® TK Coverall	136	416
DuPont Tyvek® Protective Apparel	Tychem® TK Coverall	137	419
DuPont Tyvek® Protective Apparel	Tychem® TK Coverall	138	422
DuPont Tyvek® Protective Apparel	Tychem® TK Deluxe Level B Fully Encapsulating Suit	42	124

<i>Manufacturer</i>	<i>Percutaneous PPE (Garments) Name</i>	<i>ID #</i>	<i>Page E- #</i>
DuPont Tyvek® Protective Apparel	Tychem® TK EX Commander Brigade Level A Ensemble, NFPA 1991 certified	22	64
DuPont Tyvek® Protective Apparel	Tychem® TK EX Commander Level A Fully Encapsulating Suit	23	67
DuPont Tyvek® Protective Apparel	Tychem® TK EX Commander Level A Fully Encapsulating Suit	24	70
DuPont Tyvek® Protective Apparel	Tychem® TK EX Commander Level A Fully Encapsulating Suit	25	73
DuPont Tyvek® Protective Apparel	Tychem® TK EX Commander Level A Fully Encapsulating Suit	26	76
DuPont Tyvek® Protective Apparel	Tychem® TK Level B Fully Encapsulating Suit	40	118
DuPont Tyvek® Protective Apparel	Tychem® TK Level B Fully Encapsulating Suit	41	121
DuPont Tyvek® Protective Apparel	Tyvek® Coverall	95	293
DuPont Tyvek® Protective Apparel	Tyvek® Coverall	96	296
DuPont Tyvek® Protective Apparel	Tyvek® Coverall	97	299
DuPont Tyvek® Protective Apparel	Tyvek® Coverall	98	302
DuPont Tyvek® Protective Apparel	Tyvek® Coverall	99	305
DuPont Tyvek® Protective Apparel	Tyvek® Level B Fully Encapsulating Suit	30	88
EAI Corporation	CB Incident Emergency Escape Kit	177	548
GEOMET Technologies, Inc.	Disposable Toxicological Agent Protective Suit (DTAP)/Level A	43	127
GEOMET Technologies, Inc.	Disposable Toxicological Agent Protective Suit (DTAP)/Level B	44	130
GEOMET Technologies, Inc.	Disposable Toxicological Agent Protective Suit (DTAPS)/Level C1	83	258
GEOMET Technologies, Inc.	Disposable Toxicological Agent Protective Suit (DTAPS)/Level C2	84	261
Goetzloff GmbH	EUROLITE NBC-Protection Suit	45	133
ILC Dover, Inc.	Chemtursion® Suit: Model 13 Level A (SCBA)	46	136
ILC Dover, Inc.	Chemtursion® Suit: Model 35 Level A Laboratory Suit	47	139
ILC Dover, Inc.	Chemtursion® Suit: Model 84 Level A Total Encapsulating Suit	49	145
ILC Dover, Inc.	Chemtursion® Suit: Ready 1 Model 91 Level A Limited Use	48	142
Irvin Aerospace Canada Ltd.	IPE (Individual Protection Equipment)	50	148

<i>Manufacturer</i>	<i>Percutaneous PPE (Garments) Name</i>	<i>ID #</i>	<i>Page E- #</i>
Kappler Safety Group	Kappler Coverall	139	425
Kappler Safety Group	Kappler Coverall	140	428
Kappler Safety Group	Kappler CPF 3 Coverall	141	432
Kappler Safety Group	Kappler CPF 3 Coverall	147	455
Kappler Safety Group	Kappler CPF 3 Coverall	149	463
Kappler Safety Group	Kappler CPF 3 Total Encapsulating Level B Suit	57	175
Kappler Safety Group	Kappler CPF 4 Coverall	146	451
Kappler Safety Group	Kappler CPF 4 Coverall	148	459
Kappler Safety Group	Kappler CPF 4 Total Encapsulating Level B Suit	59	183
Kappler Safety Group	Kappler CPF 4 Total Encapsulating Level B Suit	60	187
Kappler Safety Group	Kappler Ensemble, EPA Level A	145	448
Kappler Safety Group	Kappler Responder <sup>®</sup> CSM OSHA Level A	62	195
Kappler Safety Group	Kappler Responder <sup>®</sup> CSM OSHA Level B	63	198
Kappler Safety Group	Kappler Responder <sup>®</sup> Level B Coverall	142	436
Kappler Safety Group	Kappler Responder <sup>®</sup> Level B Coverall	143	440
Kappler Safety Group	Kappler Responder <sup>®</sup> Level B Coverall	144	444
Kappler Safety Group	Kappler Responder <sup>®</sup> Plus Total Encapsulating Level A suit	54	163
Kappler Safety Group	Kappler Responder <sup>®</sup> Total Encapsulating Level A Suit	52	155
Kappler Safety Group	Kappler Responder <sup>®</sup> Total Encapsulating Level A Suit (Gas-Tight)	51	151
Kappler Safety Group	Kappler Responder <sup>®</sup> Total Encapsulating Level A Suit, NFPA 1991 (Vapor Protective)	55	167
Kappler Safety Group	Kappler Responder <sup>®</sup> Total Encapsulating Level B Suit (Liquid Protective)	58	179
Kappler Safety Group	Kappler Responder <sup>®</sup> Total Encapsulating Level B Suit (Liquid Protective)	61	191
Kappler Safety Group	Kappler Total Encapsulating Level A Suit	53	159
Kappler Safety Group	Kappler Total Encapsulating Level B Suit	56	171

<i>Manufacturer</i>	<i>Percutaneous PPE (Garments) Name</i>	<i>ID #</i>	<i>Page E- #</i>
Lakeland Industries, Inc.	Lakeland Tychem® 10000 Economy Level A Encapsulated Suit	66	207
Lakeland Industries, Inc.	Lakeland Tychem® 10000 Economy Level A Encapsulated Suit	67	210
Lakeland Industries, Inc.	Lakeland Tychem® 10000 Level A Ensemble	65	204
Lakeland Industries, Inc.	Lakeland Tychem® 10000 Level A Suit	68	213
Lakeland Industries, Inc.	Lakeland Tychem® 10000 Level B Coverall	73	228
Lakeland Industries, Inc.	Lakeland Tychem® 10000 Level B Coverall	150	467
Lakeland Industries, Inc.	Lakeland Tychem® 10000 Level B Coverall	151	470
Lakeland Industries, Inc.	Lakeland Tychem® 10000 Level B Coverall	152	473
Lakeland Industries, Inc.	Lakeland Tychem® 10000 Level B Coverall	153	476
Lakeland Industries, Inc.	Lakeland Tychem® 10000 Level B Coverall	154	479
Lakeland Industries, Inc.	Lakeland Tychem® 10000 Level B Coverall	155	482
Lakeland Industries, Inc.	Lakeland Tychem® 10000 Level B Coverall	156	485
Lakeland Industries, Inc.	Lakeland Tychem® 10000 Level B Coverall	157	488
Lakeland Industries, Inc.	Lakeland Tychem® 10000 Level B Encapsulated Suit	72	225
Lakeland Industries, Inc.	Lakeland Tychem® 10000 NFPA Certified Level A Ensemble	64	201
Lakeland Industries, Inc.	Lakeland Tychem® 9400 Level B Coverall	170	527
Lakeland Industries, Inc.	Lakeland Tychem® 9400 Level B Coverall	171	530
Lakeland Industries, Inc.	Lakeland Tychem® 9400 Level B Coverall	172	533
Lakeland Industries, Inc.	Lakeland Tychem® 9400 Level B Coverall	173	536
Lakeland Industries, Inc.	Lakeland Tychem® 9400 Level B Coverall	174	539
Lakeland Industries, Inc.	Lakeland Tychem® 9400 Level B Encapsulated Suit	69	216
Lakeland Industries, Inc.	Lakeland Tychem® 9400 Level B Encapsulated Suit	70	219

<i>Manufacturer</i>	<i>Percutaneous PPE (Garments) Name</i>	<i>ID #</i>	<i>Page E- #</i>
Lakeland Industries, Inc.	Lakeland Tychem <sup>®</sup> SL Level B Coverall	164	509
Lakeland Industries, Inc.	Lakeland Tychem <sup>®</sup> SL Level B Coverall	165	512
Lakeland Industries, Inc.	Lakeland Tychem <sup>®</sup> SL Level B Coverall	166	515
Lakeland Industries, Inc.	Lakeland Tychem <sup>®</sup> SL Level B Coverall	167	518
Lakeland Industries, Inc.	Lakeland Tychem <sup>®</sup> SL Level B Coverall	168	521
Lakeland Industries, Inc.	Lakeland Tychem <sup>®</sup> SL Level B Coverall	169	524
Lakeland Industries, Inc.	Lakeland Tychem <sup>®</sup> SL Level B Encapsulated Suit	71	222
Lakeland Industries, Inc.	Lakeland Tyvek QC Level B Coverall	159	494
Lakeland Industries, Inc.	Lakeland Tyvek <sup>®</sup> QC Level B Coverall	158	491
Lakeland Industries, Inc.	Lakeland Tyvek <sup>®</sup> QC Level B Coverall	160	497
Lakeland Industries, Inc.	Lakeland Tyvek <sup>®</sup> QC Level B Coverall	161	500
Lakeland Industries, Inc.	Lakeland Tyvek <sup>®</sup> QC Level B Coverall	162	503
Lakeland Industries, Inc.	Lakeland Tyvek <sup>®</sup> QC Level B Coverall	163	506
LANX Fabric Systems	Chemical Protective Overgarments (CPO)	175	542
New Pac Safety AB	C-Cover Dress S-97 NBC Protective Overgarment	76	237
New Pac Safety AB	C-Cover S/89N	75	234
New Pac Safety AB	C-Cover S-89 One Piece NBC Protective Overgarment	74	231
Tex-Shield, Inc.	Saratoga HAMMER Suit	77	240
Tex-Shield, Inc.	Saratoga Joint Service Lightweight Integrated Suit (JSLIST)	78	243
Tex-Shield, Inc.	US Air Force Saratoga CWU-66/P Coverall	176	545
Trelleborg Industries	Trellchem <sup>®</sup> High Performance Suit (HPS) Level A	79	246
Trelleborg Industries	Trellchem <sup>®</sup> TLU (Limited Use) Level A	80	249
Trelleborg Industries	Trellchem <sup>®</sup> Vapor Barrier Suit (VPI) Level A	81	252
Trelleborg Industries	Trellchem <sup>®</sup> Vapor Barrier Suit (VPS) Level A	82	255
Vinyl Technology, Inc.	"Hot" Operation: Air-Fed Garments	86	267



<i>Manufacturer</i>	<i>Percutaneous PPE (Garments) Name</i>	<i>Page</i>	
		<i>ID #</i>	<i>E- #</i>
Vinyl Technology, Inc.	Demilitarization Protective Ensembles (DPEs)	85	264
SEA	SEA Tyvek® “F” Suit Level B	178	551
New Pac Safety AB	NewPac CEMI COVER DRESS C/91	179	554
New Pac Safety AB	NewPac First Responder PPE Kit	180	557

**APPENDIX E—PERCUTANEOUS PROTECTIVE EQUIPMENT  
(GARMENTS) DATA SHEETS**

*Personal Protective Equipment (Percutaneous—Garments)*

General

**Name**

**ID# 1**

*STEPO Chemical Protective Suit (Totally Encapsulating)*



**Technology**

Impermeable; primary material: fluoropolymer/aramid fiber multi-laminate; reinforcement patches: fluoropolymer/glass fiber multi-laminate; visor: FEP with PVC overlay; glove: Neoprene/butyl

**Stock Number**

Small (S): 8415-01-452-6772  
Medium (M): 8415-01-452-8631  
Large (L): 8415-01-454-1627  
X-large (XL): 8415-01-452-8629

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Totally encapsulating suit is compatible with variety of SCBAs (open and closed circuit), a personal ice cooling system (PICS) and communications equipment

**Availability**

Fielding in process (December 1999 through July 2002). Army EOD units, technical escort units and chemical storage sites will be fielded equipment

**Current User(s)**

EOD Units, Technical Escort Units, and Chemical Activities

**Manufacturer**

Chemfab Corporation  
701 Daniel Webster Highway  
Merrimack, NH 03054  
603-424-9000 (Tel)  
POC: Mark Weber (Program Manager)

**Manufacturer Type**

Domestic

**Developer**

GEOMET Technologies, Inc., Germantown, MD and Natick Research Development and Engineering Center (NRDEC), Kansas Street, Natick, MA

**Source**

GEOMET Technologies, Inc.

**Certification**

Type Classified by U.S. Army, 1997

Operational Parameters

**Chemical Warfare (CW)**

Nerve: GB and VX; blister: HD and L

**Agents Protected Against**

<b>Biological Warfare (BW) Agents Protected Against</b>	No testing conducted against BW agents. However, the suit is designed to protect against CW agents and industrial chemicals, therefore it is a safe assumption that the suit, when worn with a supplied air respirator, will provide exceptional protection against BW agents.
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Suit tested against industrial chemicals listed in NFPA 1991, 1994 edition (ASTM F1001). Suit also will provide protection from phosgene, hydrazine, caustic soda, diesel fuel, kerosene, JP-4, and DS2.
<b>Duration of Protection</b>	Four (4) h mission duration. May be reused five times after exposure to CW agent vapor and decontamination. If exposed to CW agent liquid must be decontaminated for disposal. Otherwise, may be reused as long as visual inspection and pressure test criteria is met.
<b>Recommended Use(s)</b>	For use in unknown, highly toxic, oxygen deficient and IDLH environments where the highest level of respiratory and percutaneous protection is required
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	4 sizes: S, M, L, and XL
<b>Weight</b>	14 lb
<b>Package Size and Volume</b>	24 in x 24 in x 12 in
<b>Power Requirements</b>	None
<b>Material Type</b>	Impermeable; primary material: fluoropolymer/aramid fiber multi-laminate; reinforcement patches: fluoropolymer/glass fiber multi-laminate; visor: FEP with PVC overlay; glove: neoprene/butyl
<b>Construction Type</b>	Heat sealed seams with heat sealed fluoropolymer over tape
<b>Color</b>	Light gray exterior and beige interior
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Totally encapsulating suit is compatible with variety of SCBAs (open and closed circuit), a personal ice cooling system (PICS) and communications equipment
<b>Consumables</b>	Paraffin wax to lubricate zipper. Cleaning/sanitizing supplies.
<b>Maintenance Requirements</b>	Cleaning/sanitizing, visual inspection, zipper lubrication, and pressure test
<b>Shelf Life</b>	None determined
<b>Transportability</b>	Hard case (polyethylene) holds two suits or soft carry bag (holds one suit). Pressure test kit and patch kit also in molded plastic cases.
<b>Operational Limitations</b>	Approved for use from -20 °F to +125 °F. Local SOP will determine any other restrictions. Moderately durable.
<b>Environmental Conditions</b>	Contaminated suits must be decontaminated and disposed of in accordance with established procedures, regulations and laws
<b>Unit Cost</b>	Suit: 1 to 10, \$5K; 11 to 45, \$4.7K; 46 to 200, \$4.2K; 201 to 500, \$4.2K; Pressure Test Kit: \$1.5K; Patch Kit: \$399 (all prices subject to change)

<b>Maintenance Cost</b>	Five man hours per year use and eight man hours per year for quarterly test and inspection (based on information in TM 10–8415–231–12&P Maintenance Allocation Chart)
<b>Warranty</b>	1 yr
<b>Don/Doff Information</b>	One assistant required for donning. System can be doffed by user, however, an assistant would be beneficial.
<b>Use/Reuse</b>	Reusable. Exception: when exposed to CW agent liquid suit must be decontaminated for disposal.
<b>Launderability</b>	Decon in accordance with DA PAM 385–61 and AR 385–61. Do not use DS2 for decontamination if suit is to be reused. May be reused five times after exposure to CW agent vapor and decontamination. If exposed to CW agent liquid must be decontaminated for disposal. Not machine washable. Launder in tubs using nonphosphate soap and warm water.
<b>Accessories</b>	Laminate glove liner, neoprene socks, and coolant pass-through
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Minimum of 8 h for operation. Additional 8 h for maintenance
<b>Training Available</b>	Yes
<b>Manuals Available</b>	Technical Manual TM 10–8415–231–12&P developed under government contract to support operation and maintenance of suit
<b>Surveillance Testing Requirements</b>	Visual Inspection and pressure test, IAW TM 10–8415–231–12&P
<b>Support Equipment</b>	Pressure test kit and patch kit available to maintain suit. Breathing Apparatus and Personal Ice Cooling System is required to put system into operation. Suit is compatible with 4 h, closed circuit rebreather, open-circuit SCBA, and SCBA with tethered air supply hose. Suit is also compatible with communications equipment.
<b>Testing Information</b>	NFPA data available from manufacture. CW agent data available from NRDEC (see attachment for data summary)
<b>Applicable Regulations</b>	EPA and Army Regulations. Safety precautions are identified in TM 10–8415–231–12&P.
<b>Health Hazards</b>	MSDS sheet available for suit material. The patching procedure is a heat-sealing process that may create fumes. Patching should be done in a ventilated area.
<b>Communications Interface Capability</b>	Yes. Compatible with radio systems utilizing ear microphone/speakers, throat microphones, and other microphones and speakers that integrate with respiratory protective face masks.
<b>EOD Compatibility</b>	Yes. Specifically designed for EOD units and toxic munitions handlers.

**General**

**Name**  
**ID# 2**

***Tychem® 10000 Commander Level A Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

100FAB (front entry)  
100RAB (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, fully encapsulating, PVC/Teflon® face shield, fully encapsulating, Barrier®/Butyl dual glove system, flat back for external air supply

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Protects against all biological toxins and pathogens

<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Hot zone entry, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	11 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond max seam—sewn and taped both inside and out. This seam construction combines outstanding strength with excellent chemical/vapor protection.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$782

<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag included. Pass-throughs available. Must be ordered separately.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears), and pressure testing (ASTM F1052) every 6 mo
<b>Support Equipment</b>	Appropriate respiratory, foot, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 9.5 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 29 mils Mullen burst (ASTM D3786–87) 204 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, s. 5.3) 197/178 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 36/50 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit



**General**

**Name**  
**ID# 3**

***Tychem® 10000 Commander Level A Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

100FAV (front entry)  
100RAV (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, fully encapsulating, PVC/Teflon® face shield, fully encapsulating, Barrier®/Viton dual glove system, flat back for external air supply

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Protects against all biological toxins and pathogens

<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand service at 800-558-9329 and request document 641, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Hot zone entry, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	11 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond Max seam—sewn and taped both inside and out. This seam construction combines outstanding strength with excellent chemical/vapor protection.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$8.2K
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials

<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag included. Pass-throughs available. Must be ordered separately.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears), and pressure testing (ASTM F1052) every 6 mo
<b>Support Equipment</b>	Appropriate respiratory, foot, and head protection. Pressure test kit
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 9.5 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 29 mils Mullen burst (ASTM D3786–87) 204 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 197/178 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 36/50 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 4**

***Tychem® 10000 Commander Level A Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

100FB (front entry)  
100RB (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, fully encapsulating, PVC/Teflon® face shield, fully encapsulating, Barrier®/Butyl dual glove system, expanded back for SCBA

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

<b>Biological Warfare (BW) Agents Protected Against</b>	Protects against all biological toxins and pathogens
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Hot zone entry, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	11 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond Max seam—sewn and taped both inside and out. This seam construction combines outstanding strength with excellent chemical/vapor protection.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

<b>Unit Cost</b>	\$782
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears), and pressure testing (ASTM F1052) every 6 mo
<b>Support Equipment</b>	Appropriate respiratory, foot, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 9.5 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 29 mils Mullen burst (ASTM D3786–87) 204 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 197/178 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 36/50 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 5**

*Tychem<sup>®</sup> 10000 Commander Level A Fully Encapsulating Suit*



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

100FV (front entry)  
100RV (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, fully encapsulating, PVC/Teflon<sup>®</sup> face shield, fully encapsulating, Barrier<sup>®</sup>/Viton dual glove system, expanded back for SCBA

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

<b>Biological Warfare (BW) Agents Protected Against</b>	Protects against all biological toxins and pathogens
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Hot zone entry, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	11 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond Max seam—sewn and taped both inside and out. This seam construction combines outstanding strength with excellent chemical/vapor protection.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.



<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$818
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears), and pressure testing (ASTM F1052) every 6 mo
<b>Support Equipment</b>	Appropriate respiratory, foot, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 9.5 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 29 mils Mullen burst (ASTM D3786–87) 204 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 197/178 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 36/50 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 6**

*Tychem<sup>®</sup> 10000 EX Commander Level A Fully Encapsulating Suit*



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

100XFAB (front entry)  
100XRAB (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, fully encapsulating, PVC/Teflon<sup>®</sup> Pana-Vu view face shield, fully encapsulating, Barrier<sup>®</sup>/Butyl dual glove system, flat back for external air supply

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

<b>Biological Warfare (BW) Agents Protected Against</b>	Protects against all biological toxins and pathogens
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand service at 800-558-9329 and request document 641, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Hot zone entry, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	11 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond Max seam—sewn and taped both inside and out. This seam construction combines outstanding strength with excellent chemical/vapor protection.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$973
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Laundryability</b>	Not applicable. Not intended for re-use after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag included. Pass-throughs available. Must be ordered separately.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears), and pressure testing (ASTM F1052) every 6 mo
<b>Support Equipment</b>	Appropriate respiratory, foot, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 9.5 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 29 mils Mullen burst (ASTM D3786–87) 204 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 197/178 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 36/50 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 7**

*Tychem<sup>®</sup> 10000 EX Commander Level A Fully Encapsulating Suit*



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

100XFAV (front entry)  
100XRAV (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, fully encapsulating, PVC/Teflon<sup>®</sup> Pana-Vu view face shield, fully encapsulating, Barrier<sup>®</sup>/Viton dual glove system, flat back for external air supply

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L).  
For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

<b>Biological Warfare (BW) Agents Protected Against</b>	Protects against all biological toxins and pathogens
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Hot zone entry, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	11 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond Max seam—sewn and taped both inside and out. This seam construction combines outstanding strength with excellent chemical/vapor protection.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

<b>Unit Cost</b>	\$1K
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag included. Pass-throughs available. Must be ordered separately.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 9.5 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 29 mils Mullen burst (ASTM D3786–87) 204 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 197/178 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 36/50 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 8**

***Tychem® 10000 EX Commander Level A Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

100XFB (front entry)  
100XRB (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, fully encapsulating, PVC/Teflon® Pana-Vu view face shield, fully encapsulating, Barrier®/Butyl dual glove system, expanded back for SCBA

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.



<b>Biological Warfare (BW) Agents Protected Against</b>	Protects against all biological toxins and pathogens
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Hot zone entry, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	11 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond Max seam—sewn and taped both inside and out. This seam construction combines outstanding strength with excellent chemical/vapor protection.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$973
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Laundryability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 9.5 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 29 mils Mullen burst (ASTM D3786–87) 204 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 197/178 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 36/50 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 9**

*Tychem<sup>®</sup> 10000 EX Commander Level A Fully Encapsulating Suit*



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

100XFV (front entry)  
100XRV (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, fully encapsulating, PVC/Teflon<sup>®</sup> Pana-Vu view face shield, fully encapsulating, Barrier<sup>®</sup>/Viton dual glove system, expanded back for SCBA

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

<b>Biological Warfare (BW) Agents Protected Against</b>	Protects against all biological toxins and pathogens
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand service at 800-558-9329 and request document 641, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Hot zone entry, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	11 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond Max seam—sewn and taped both inside and out. This seam construction combines outstanding strength with excellent chemical/vapor protection.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$1K
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 9.5 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 29 mils Mullen burst (ASTM D3786–87) 204 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 197/178 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 36/50 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 10**

***Tychem<sup>®</sup> BR Commander Level A Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

95FAB (front entry)  
95RAB (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, fully encapsulating, PVC/Teflon<sup>®</sup> face shield, fully encapsulating, Barrier<sup>®</sup>/Butyl dual glove system, flat back for external air supply

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Will meet the requirements of NFPA 1992-2000 edition

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

<b>Biological Warfare (BW) Agents Protected Against</b>	Protects against all biological toxins and pathogens
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	A broad range of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand service at 800-558-9329 and request document 648, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> GB, HD, and VX: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) L: Greater than 2 h at 100 g/m <sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 636, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Hot zone entry, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	11 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	Yellow or olive drab
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$573
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag included. Pass-throughs available. Must be ordered separately.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears), and pressure testing (ASTM F1052) every 6 mo
<b>Support Equipment</b>	Appropriate respiratory, foot, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 6.6 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 16 mils Ball burst (ASTM D3787–89) 90 psi Breaking strength—Grab (md/xd) (ASTM D5034) 90/84 lb Tearing strength—Trapezoid (md/xd) (ASTM D5597) 19/19 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit



**General**

**Name**  
**ID# 11**

***Tychem<sup>®</sup> BR Commander Level A Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

95FAV (front entry)  
95RAV (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, fully encapsulating, PVC/Teflon<sup>®</sup> face shield, fully encapsulating, Barrier<sup>®</sup>/Viton dual glove system, flat back for external air supply

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Will meet the requirements of NFPA 1992-2000 edition

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

<b>Biological Warfare (BW) Agents Protected Against</b>	Protects against all biological toxins and pathogens
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	A broad range of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 648, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> GB, HD, VX: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) L: Greater than 2 h at 100 g/m <sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 636, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Hot zone entry, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	11 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	Yellow or olive drab
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$600
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag included. Pass-throughs available. Must be ordered separately.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears), and pressure testing (ASTM F1052) every 6 mo
<b>Support Equipment</b>	Appropriate respiratory, foot, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 6.6 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 16 mils Ball burst (ASTM D3787–89) 90 psi Breaking strength—Grab (md/xd) (ASTM D5034) 90/84 lb Tearing strength—Trapezoid (md/xd) (ASTM D5597) 19/19 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 12**

***Tychem® BR Commander Level A Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

95FB (front entry)  
95RB (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, fully encapsulating, PVC/Teflon® face shield, fully encapsulating, Barrier®/Butyl dual glove system, expanded back for SCBA

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Will meet the requirements of NFPA 1992-2000 edition

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

<b>Biological Warfare (BW) Agents Protected Against</b>	Protects against all biological toxins and pathogens
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	A broad range of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 636, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> GB, HD, and VX: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) L: Greater than 2 h at 100 g/m <sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 636, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Hot zone entry, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	11 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	Yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

<b>Unit Cost</b>	\$573
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears), and pressure testing (ASTM F1052) every 6 mo
<b>Support Equipment</b>	Appropriate respiratory, foot, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 6.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 17 mils Mullen burst (ASTM D3786–87) 110 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 107/71 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 47/27 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 13**

***Tychem® BR Commander Level A Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

95FV (front entry)  
95RV (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, fully encapsulating, PVC/Teflon® face shield, fully encapsulating, Barrier®/Viton dual glove system, expanded back for SCBA

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Will meet the requirements of NFPA 1992-2000 edition

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

<b>Biological Warfare (BW) Agents Protected Against</b>	Protects against all biological toxins and pathogens
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	A broad range of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 648, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> GB, HD, and VX: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) L: Greater than 2 h at 100 g/m <sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 636, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Hot zone entry, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	11 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	Yellow or olive drab
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.



<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$600
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears), and pressure testing (ASTM F1052) every 6 mo
<b>Support Equipment</b>	Appropriate respiratory, foot, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 6.6 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 16 mils Ball burst (ASTM D3787–89) 90 psi Breaking strength—Grab (md/xd) (ASTM D5034) 90/84 lb Tearing strength—Trapezoid (md/xd) (ASTM D5597) 19/19 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 14**

***Tychem® BR EX Commander Level A Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

95XFAB (front entry)  
95XRAB (rear entry)

**Protection Type**  
**Equipment Category**

Level A, Percutaneous  
Level A, fully encapsulating, PVC/Teflon® Pana-Vu view face shield, fully encapsulating, Barrier®/Butyl dual glove system, flat back for external air supply

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Will meet the requirements of NFPA 1992-2000 edition

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

<b>Biological Warfare (BW) Agents Protected Against</b>	Protects against all biological toxins and pathogens
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	A broad range of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800–558–9329 and request document 648, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> GB, HD, and VX: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) L: Greater than 2 h at 100 g/m <sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand service at 800–558–9329 and request document 636, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Hot zone entry, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	11 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	Yellow or olive drab
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$764
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag included. Pass-throughs available. Must be ordered separately.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears), and pressure testing (ASTM F1052) every 6 mo
<b>Support Equipment</b>	Appropriate respiratory, foot, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 6.6 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 16 mils Ball burst (ASTM D3787–89) 90 psi Breaking strength—Grab (md/xd) (ASTM D5034) 90/84 lb Tearing strength—Trapezoid (md/xd) (ASTM D5597) 19/19 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 15**

***Tychem® BR EX Commander Level A Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

95XFAV (front entry)  
95XRVA (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, fully encapsulating, PVC/Teflon® Pana-Vu face shield, fully encapsulating, Barrier®/Viton dual glove system, flat back for external air supply

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Will meet the requirements of NFPA 1992-2000 edition

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

<b>Biological Warfare (BW) Agents Protected Against</b>	Protects against all biological toxins and pathogens
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	A broad range of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand service at 800-558-9329 and request document 648, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> GB, HD, and VX: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) L: Greater than 2 h at 100 g/m <sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand service at 800-558-9329 and request document 636, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Hot zone entry, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	11 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	Yellow or olive drab
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$764
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Laundryability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag included. Pass-throughs available. Must be ordered separately.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears), and pressure testing (ASTM F1052) every 6 mo
<b>Support Equipment</b>	Appropriate respiratory, foot, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 6.6 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 16 mils Ball burst (ASTM D3787–89) 90 psi Breaking strength—Grab (md/xd) (ASTM D5034) 90/84 lb Tearing strength—Trapezoid (md/xd) (ASTM D5597) 19/19 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 16**

***Tychem® BR EX Commander Level A Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

95XFB (front entry)  
95XRB (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, fully encapsulating, PVC/Teflon® Pana-Vu view face shield, fully encapsulating, Barrier®/Butyl dual glove system, expanded back for SCBA

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Will meet the requirements of NFPA 1992-2000 edition

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.



<b>Biological Warfare (BW) Agents Protected Against</b>	Protects against all biological toxins and pathogens
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	A broad range of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 648, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> GB, HD, and VX: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) L: Greater than 2 h at 100 g/m <sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 636, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Hot zone entry, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	11 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	Yellow or olive drab
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$764
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears), and pressure testing (ASTM F1052) every 6 mo
<b>Support Equipment</b>	Appropriate respiratory, foot, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 6.6 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 16 mils Ball burst (ASTM D3787–89) 90 psi Breaking strength—Grab (md/xd) (ASTM D5034) 90/84 lb Tearing strength—Trapezoid (md/xd) (ASTM D5597) 19/19 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 17**

***Tychem® BR EX Commander Level A Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

95XFV (front entry)  
95XRV (rear entry)

**Protection Type**  
**Equipment Category**

Level A, Percutaneous  
Level A, fully encapsulating, PVC/Teflon® Pana-Vu view face shield, fully encapsulating, Barrier®/Viton dual glove system, expanded back for SCBA

**Availability**  
**Current User(s)**

Commercially available  
U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Will meet the requirements of NFPA 1992-2000 edition

**Operational Parameters**

**Chemical Warfare (CW)**  
**Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)**  
**Agents Protected Against**

Protects against all biological toxins and pathogens

**Toxic Industrial Materials (TIMs) Protected Against**

A broad range of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand service at 800-558-9329 and request document 648, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m<sup>2</sup>  
GB, HD, and VX: Greater than 12 h at 100 g/m<sup>2</sup> (total coverage)  
L: Greater than 2 h at 100 g/m<sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 636, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Hot zone entry, crisis management, remediation, and gross decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

11 lb/ctn and 1 unit/ctn

**Package Size and Volume**

22 in L x 22 in W x 10 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

Yellow or olive drab

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.

**Consumables**

None

**Maintenance Requirements**

Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

<b>Unit Cost</b>	\$782
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears), and pressure testing (ASTM F1052) every 6 mo
<b>Support Equipment</b>	Appropriate respiratory, foot, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 6.6 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 16 mils Ball burst (ASTM D3787–89) 90 psi Breaking strength—Grab (md/xd) (ASTM D5034) 90/84 lb Tearing strength—Trapezoid (md/xd) (ASTM D5597) 19/19 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 18**

***Tychem® TK Commander Level A Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

TKFAB (front entry)  
TKRAB (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, fully encapsulating, PVC/Teflon® face shield, Barrier®/Butyl dual glove system, flat back for external air supply

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Will meet the requirements of NFPA 1992-2000 edition

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Protects against all biological toxins and pathogens

**Toxic Industrial Materials (TIMs) Protected Against**

Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
GB, HD, VX, and L: Greater than 12 h at 100 g/m<sup>2</sup> (total coverage)  
GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m<sup>2</sup>. For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Hot zone entry, crisis management, remediation, and gross decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

11 lb/ctn and 1 unit/ctn

**Package Size and Volume**

22 in L x 22 in W x 10 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond max seam—sewn and taped both inside and out. This seam construction combines outstanding strength with excellent chemical/vapor protection.

**Color**

High-visibility lime yellow

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.

**Consumables**

None

**Maintenance Requirements**

Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

<b>Unit Cost</b>	\$1K
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag included. Pass-throughs available. Must be ordered separately.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears), and pressure testing (ASTM F1052) every 6 mo
<b>Support Equipment</b>	Appropriate respiratory, foot, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776) 10.6 oz/yd <sup>2</sup> Thickness (ASTM D1777) 26 mils Ball burst (ASTM D3787) 187 psi Breaking strength—Grab (md/xd) (ASTM D15034) 188/180 lb Tearing strength—Trapezoid (md/xd) (ASTM D5733) 53/52 lb Permeation data available by calling 1-877-797-5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit



**General**

**Name**  
**ID# 19**

***Tychem® TK Commander Level A Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

TKFAV (front entry)  
TKRAV (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, fully encapsulating, PVC/Teflon® face shield, fully encapsulating, Barrier®/Viton dual glove system, flat back for external air supply

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Will meet the requirements of NFPA 1992-2000 edition

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

<b>Biological Warfare (BW) Agents Protected Against</b>	Protects against all biological toxins and pathogens
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GB, HD, VX, and L: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> . For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Hot zone entry, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	11 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond max seam—sewn and taped both inside and out. This seam construction combines outstanding strength with excellent chemical/vapor protection.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

<b>Unit Cost</b>	\$818
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag included. Pass-throughs available. Must be ordered separately.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears), and pressure testing (ASTM F1052) every 6 mo
<b>Support Equipment</b>	Appropriate respiratory, foot, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776) 10.6 oz/yd <sup>2</sup> Thickness (ASTM D1777) 26 mils Ball burst (ASTM D3787) 187 psi Breaking strength—Grab (md/xd) (ASTM D15034) 188/180 lb Tearing strength—Trapezoid (md/xd) (ASTM D5733) 53/52 lb Permeation data available by calling 1-877-797-5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 20**

***Tychem® TK Commander Level A Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

TKFB (front entry)  
TKRB (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, fully encapsulating, PVC/Teflon® face shield, fully encapsulating, Barrier®/Butyl dual glove system, expanded back for SCBA

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Will meet the requirements of NFPA 1992-2000 edition

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

<b>Biological Warfare (BW) Agents Protected Against</b>	Protects against all biological toxins and pathogens
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GB, HD, VX, and L: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> . For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Hot zone entry, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	11 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond max seam—sewn and taped both inside and out. This seam construction combines outstanding strength with excellent chemical/vapor protection.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$782
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears), and pressure testing (ASTM F1052) every 6 mo
<b>Support Equipment</b>	Appropriate respiratory, foot, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776) 10.6 oz/yd <sup>2</sup> Thickness (ASTM D1777) 26 mils Ball burst (ASTM D3787) 187 psi Breaking strength—Grab (md/xd) (ASTM D15034) 188/180 lb Tearing strength—Trapezoid (md/xd) (ASTM D5733) 53/52 lb Permeation data available by calling 1-877-797-5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 21**

***Tychem<sup>®</sup> TK Commander Level A Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

TKFV (front entry)  
TKRV (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, fully encapsulating, PVC/Teflon<sup>®</sup> face shield, fully encapsulating, Barrier<sup>®</sup>/Viton dual glove system, expanded back for SCBA

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Will meet the requirements of NFPA 1992-2000 edition

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

<b>Biological Warfare (BW) Agents Protected Against</b>	Protects against all biological toxins and pathogens
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GB, HD, VX, and L: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Hot zone entry, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	11 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond Max seam—sewn and taped both inside and out. This seam construction combines outstanding strength with excellent chemical/vapor protection.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.



<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$818
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Laundryability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears), and pressure testing (ASTM F1052) every 6 mo
<b>Support Equipment</b>	Appropriate respiratory, foot, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776) 10.6 oz/yd <sup>2</sup> Thickness (ASTM D1777) 26 mils Ball burst (ASTM D3787) 187 psi Breaking strength—Grab (md/xd) (ASTM D15034) 188/180 lb Tearing strength—Trapezoid (md/xd) (ASTM D5733) 53/52 lb Permeation data available by calling 1-877-797-5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

***Tychem<sup>®</sup> TK EX Commander Brigade Level A Ensemble, NFPA 1991 certified***

**ID# 22**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

TKXF91 (front entry)  
TKXR91 (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, ensemble, NFPA 1991 certified, with aluminized fiberglass overcover, expanded back for SCBA, (Pana-Vu face shield)

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

NFPA 1991-2000 edition certified

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

<b>Biological Warfare (BW) Agents Protected Against</b>	Protects against all biological toxins and pathogens
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GB, HD, VX, and L: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> . For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Hot zone entry, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	16 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond Max seam—sewn and taped both inside and out. This seam construction combines outstanding strength with excellent chemical/vapor protection.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$2.1K
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 to 3 min. Average doffing time is less than 1 min.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears), and pressure testing (ASTM F1052) every 6 mo
<b>Support Equipment</b>	Appropriate respiratory, foot, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776) 10.6 oz/yd <sup>2</sup> Thickness (ASTM D1777) 26 mils Ball burst (ASTM D3787) 187 psi Breaking strength—Grab (md/xd) (ASTM D15034) 188/180 lb Tearing strength—Trapezoid (md/xd) (ASTM D5733) 53/52 lb Permeation data available by calling 1-877-797-5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 23**

***Tychem® TK EX Commander Level A Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

TKXFAB (front entry)  
TKXRAB (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, fully encapsulating, PVC/Teflon® Pana-Vu view face shield, fully encapsulating, Barrier®/Butyl dual glove system, flat back for external air supply

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Will meet the requirements of NFPA 1992-2000 edition

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

<b>Biological Warfare (BW) Agents Protected Against</b>	Protects against all biological toxins and pathogens
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GB, HD, VX, and L: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> . For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Hot zone entry, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	11 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond Max seam—sewn and taped both inside and out. This seam construction combines outstanding strength with excellent chemical/vapor protection.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$973
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Laundryability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag included. Pass-throughs available. Must be ordered separately.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears), and pressure testing (ASTM F1052) every 6 mo
<b>Support Equipment</b>	Appropriate respiratory, foot, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776) 10.6 oz/yd <sup>2</sup> Thickness (ASTM D1777) 26 mils Ball burst (ASTM D3787) 187 psi Breaking strength—Grab (md/xd) (ASTM D15034) 188/180 lb Tearing strength—Trapezoid (md/xd) (ASTM D5733) 53/52 lb Permeation data available by calling 1-877-797-5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 24**

***Tychem<sup>®</sup> TK EX Commander Level A Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

TKXFAV (front entry)  
TKXRVA (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, fully encapsulating, PVC/Teflon<sup>®</sup> face shield, fully encapsulating, Barrier<sup>®</sup>/Viton dual glove system, flat back for external air supply

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Will meet the requirements of NFPA 1992-2000 edition

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.



<b>Biological Warfare (BW) Agents Protected Against</b>	Protects against all biological toxins and pathogens
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GB, HD, VX, and L: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> . For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Hot zone entry, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	11 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond Max seam—sewn and taped both inside and out. This seam construction combines outstanding strength with excellent chemical/vapor protection.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$1K
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag included. Pass-throughs available. Must be ordered separately.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears), and pressure testing (ASTM F1052) every 6 mo
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776) 10.6 oz/yd <sup>2</sup> Thickness (ASTM D1777) 26 mils Ball burst (ASTM D3787) 187 psi Breaking strength—Grab (md/xd) (ASTM D15034) 188/180 lb Tearing strength—Trapezoid (md/xd) (ASTM D5733) 53/52 lb Permeation data available by calling 1-877-797-5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 25**

***Tychem<sup>®</sup> TK EX Commander Level A Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

TKXFB (front entry)  
TKXRB (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, fully encapsulating, PVC/Teflon<sup>®</sup> Pana-Vu view face shield, fully encapsulating, Barrier<sup>®</sup>/Butyl dual glove system, expanded back for SCBA

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Will meet the requirements of NFPA 1992-2000 edition

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Protects against all biological toxins and pathogens

<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GB, HD, VX, and L: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> . For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Hot zone entry, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	11 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond Max seam—sewn and taped both inside and out. This seam construction combines outstanding strength with excellent chemical/vapor protection.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$973
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection

<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Laundryability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears), and pressure testing (ASTM F1052) every 6 mo
<b>Support Equipment</b>	Appropriate respiratory, foot, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776) 10.6 oz/yd <sup>2</sup> Thickness (ASTM D1777) 26 mils Ball burst (ASTM D3787) 187 psi Breaking strength—Grab (md/xd) (ASTM D15034) 188/180 lb Tearing strength—Trapezoid (md/xd) (ASTM D5733) 53/52 lb Permeation data available by calling 1-877-797-5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 26**

*Tychem<sup>®</sup> TK EX Commander Level A Fully Encapsulating Suit*



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

TKXFV (front entry)  
TKXRV (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, fully encapsulating, PVC/Teflon<sup>®</sup> Pana-Vu view face shield, fully encapsulating, Barrier<sup>®</sup>/Viton dual glove system, expanded back for SCBA

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Will meet the requirements of NFPA 1992-2000 edition

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

<b>Biological Warfare (BW) Agents Protected Against</b>	Protects against all biological toxins and pathogens
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GB, HD, VX, and L: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> . For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Hot zone entry, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	11 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond Max seam—sewn and taped both inside and out. This seam construction combines outstanding strength with excellent chemical/vapor protection.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection and pressure test (ASTM F1052), upon receipt and every 6 mo thereafter. Visual inspection prior to use.
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$1K
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears), and pressure testing (ASTM F1052) every 6 mo
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, and head protection. Pressure test kit.
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776) 10.6 oz/yd <sup>2</sup> Thickness (ASTM D1777) 26 mils Ball burst (ASTM D3787) 187 psi Breaking strength—Grab (md/xd) (ASTM D15034) 188/180 lb Tearing strength—Trapezoid (md/xd) (ASTM D5733) 53/52 lb Permeation data available by calling 1-877-797-5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit



**General**

**Name**  
**ID# 27**

***Tychem® 10000 Level B Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

100132 (front entry)  
100133 (rear entry)

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, fully encapsulating, flat back for external air supply, PVC face shield

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 100 g/m<sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, and gross decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

5 lb/ctn and 1 unit/ctn

**Package Size and Volume**

15 3/4 in L x 15 3/4 in W x 14 1/4 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

High-visibility lime yellow

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use.

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$219

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag included. Pass-throughs available. Must be ordered separately.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 9.5 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 29 mils Mullen burst (ASTM D3786–87) 204 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 197/178 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 36/50 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 28**

***Tychem® 10000 Level B Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

100135 (front entry)  
100635 (rear entry)

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, fully encapsulating, expanded back for SCBA, and PVC face shield

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
GA, GB, GD, HD, L, and VX: Greater than 12 h at 100 g/m<sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, and remediation

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

5 lb/ctn and 1 unit/ctn

**Package Size and Volume**

15 3/4 in L x 15 3/4 in W x 14 1/4 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

High-visibility lime yellow

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

<b>Unit Cost</b>	\$258
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 9.5 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 29 mils Mullen burst (ASTM D3786–87) 204 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 197/178 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 36/50 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 29**

***Tychem<sup>®</sup> 10000 Deluxe Level B Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics. Pictured is stock # 100135.

**Stock Number**

100136 (front entry)  
100636 (rear entry)

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, fully encapsulating, expanded back for SCBA, and PVC/Teflon<sup>®</sup> face shield

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

<b>Biological Warfare (BW) Agents Protected Against</b>	Not specified
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Emergency response, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	8 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection prior to use
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.



<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$290
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 9.5 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 29 mils Mullen burst (ASTM D3786–87) 204 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 197/178 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 36/50 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 30**

***Tyvek® Level B Fully Encapsulating Suit***



**Technology** Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number** 14132 (front entry)  
14133 (rear entry)

**Protection Type** Level B, Percutaneous

**Equipment Category** Level B, fully encapsulating, flat back for external air supply, and polyester face shield

**Availability** Commercially available

**Current User(s)** U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer** DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type** Domestic manufacturer

**Developer** DuPont Protective Apparel

**Source** DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification** Not applicable

**Operational Parameters**

**Chemical Warfare (CW) Agents Protected Against** Not applicable

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials  
(TIMs) Protected Against**

Hazardous dry particulates. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 610, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel) .

**Duration of Protection**

For specific test data on hazardous dry particulates, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 610, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel) . No test data for CW agents.

**Recommended Use(s)**

Crisis management (post decon); remediation

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

4 lb/ctn and 4 unit/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

High density spunbonded polyethylene coated with polyethylene film

**Construction Type**

Sewn seam—overedge serged seam construction offers protection against many dry particulates and light sprays

**Color**

White

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

<b>Unit Cost</b>	\$145/carton
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations. Can be incinerated provided the garment is not contaminated with hazardous or toxic materials.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to hazardous materials.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 1.2 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 5.3 mils Strip tensile (in-lb) (ASTM D1682)(MD/CD) 7.9/7.6 Work to break (in-lb) (ASTM D1682) (MD/CD) 2.4/2.1 Tongue tear, lb (ASTM D2261 (MD/CD) Barrier data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 31**

*Tychem<sup>®</sup> QC Level B Fully Encapsulating Suit*



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

37132 (front entry)  
37133 (rear entry)

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, fully encapsulating, flat back for external air supply, polyester face shield

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Not tested

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

Many inorganic acids, bases, and other liquid chemicals such as pesticides. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel). No test data available for CW agents.

**Recommended Use(s)**

Crisis management (post decon), medical triage, and remediation

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

2 lb/ctn and 2 units/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Bound seam—tightly sewn seam is reinforced with an outer binding to further enhance seam strength and barrier quality

**Color**

Yellow, grey

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$68/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag included. Pass-throughs available. Must be ordered separately.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 2.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 6.0 mils Mullen burst (ASTM D3786–87) 66 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 25/35 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 7/5 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 32**

***Tychem<sup>®</sup> SL Utility Level B Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

41132 (front entry)  
41133 (rear entry)

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, fully encapsulating, flat back for external air supply, and PVC face shield

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GB and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified



**Toxic Industrial Materials (TIMs) Protected Against**

A broad range of liquid chemicals. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
VX: Greater than 12 h at 10 g/m<sup>2</sup>  
GB and L: Greater than 6 h at 10 g/m<sup>2</sup>  
D: Greater than 3 h at 10 g/m<sup>2</sup>. For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, and decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

5 lb/ctn and 1 unit/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

White

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$85

<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag included. Pass-throughs available. Must be ordered separately.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 3.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 10.3 mils Mullen burst (ASTM D3786–87) 78 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 42/45 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 11/9 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 33**

*Tychem<sup>®</sup> SL Utility Level B Fully Encapsulating Suit*



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

41135 (front entry)  
41635 (rear entry)

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, fully encapsulating, expanded back for SCBA, and PVC face shield

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GB and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

<b>Toxic Industrial Materials (TIMs) Protected Against</b>	A broad range of liquid chemicals. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time VX: Greater than 12 h at 10 g/m <sup>2</sup> GB and L: Greater than 6 h at 10 g/m <sup>2</sup> D: Greater than 3 h at 10 g/m <sup>2</sup> . For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Emergency response, crisis management, remediation, and decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	5 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	16 in L x 10 1/4 in W x 14 1/8 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	White
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection prior to use
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$90
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 3.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 10.3 mils Mullen burst (ASTM D3786–87) 78 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 42/45 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 11/9 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 34**

*Tychem<sup>®</sup> SL Level B Fully Encapsulating Suit*



**Technology** Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number** 42132 (front entry)  
42133 (rear entry)

**Protection Type** Level B, Percutaneous

**Equipment Category** Level B, fully encapsulating, flat back for external air supply, and PVC face shield

**Availability** Commercially available

**Current User(s)** U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer** DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type** Domestic manufacturer

**Developer** DuPont Protective Apparel

**Source** DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification** Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against** Nerve agents (GB and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against** Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

A broad range of liquid chemicals. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
VX: Greater than 12 h at 10 g/m<sup>2</sup>  
GB and L: Greater than 6 h at 10 g/m<sup>2</sup>  
D: Greater than 3 h at 10 g/m<sup>2</sup>. For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, and decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

2 lb/ctn and 2 units/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

White

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$99/carton

<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag included. Pass-throughs available. Must be ordered separately.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 3.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 10.3 mils Mullen burst (ASTM D3786–87) 78 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 42/45 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 11/9 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit



**General**

**Name**  
**ID# 35**

***Tychem® SL Level B Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

42135 (front entry)  
42635 (rear entry)

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, fully encapsulating, expanded back for SCBA, and PVC face shield

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GB and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

A broad range of liquid chemicals. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
VX: Greater than 12 h at 10 g/m<sup>2</sup>  
GB and L: Greater than 6 h at 10 g/m<sup>2</sup>  
D: Greater than 3 h at 10 g/m<sup>2</sup>. For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, and decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

3 lb/ctn and 1 units/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Bound seam—tightly sewn seam is reinforced with an outer binding to further enhance seam strength and barrier quality

**Color**

White

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$59

<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 3.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 10.3 mils Mullen burst (ASTM D3786–87) 78 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 42/45 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 11/9 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 36**

*Tychem<sup>®</sup> QC Level B Fully Encapsulating Suit*



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

63132 (front entry)  
63133 (rear entry)

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, fully encapsulating, flat back for external air supply, and polyester face shield

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Not tested

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Many inorganic acids, bases, and other liquid chemicals such as pesticides. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> . No test data available for CW agents.
<b>Recommended Use(s)</b>	Crisis management (post decon), medical triage, and remediation
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	5 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	16 in L x 10 1/4 in W x 14 1/8 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	Yellow, grey
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection prior to use
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$71

<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag included. Pass-throughs available. Must be ordered separately.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 2.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 6.0 mils Mullen burst (ASTM D3786–87) 66 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 25/35 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 7/5 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 37**

***Tychem<sup>®</sup> BR Level B Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

95132 (front entry)  
95133 (rear entry)

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, fully encapsulating, flat back for external air supply, and PVC face shield

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

A broad range of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 648, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m<sup>2</sup>  
GB, HD, and VX: Greater than 12 h at 100 g/m<sup>2</sup> (total coverage)  
L: Greater than 2 h at 100 g/m<sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 636, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, and gross decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

5 lb/ctn and 1 unit/ctn

**Package Size and Volume**

15 3/4 in L x 15 3/4 in W x 14 1/4 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

Yellow or olive drab

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.



<b>Unit Cost</b>	\$144
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 6.6 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 16 mils Ball burst (ASTM D3787–89) 90 psi Breaking strength—Grab (md/xd) (ASTM D5034) 90/84 lb Tearing strength—Trapezoid (md/xd) (ASTM D5597) 19/19 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 38**

*Tychem<sup>®</sup> BR Level B Fully Encapsulating Suit*



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

95135 (front entry)  
95635 (rear entry)

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, fully encapsulating, expanded back for SCBA, and PVC face shield

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

A broad range of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 648, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m<sup>2</sup>  
GB, HD, and VX: Greater than 12 h at 100 g/m<sup>2</sup> (total coverage)  
L: Greater than 2 h at 100 g/m<sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 636, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, and gross decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

5 lb/ctn and 1 unit/ctn

**Package Size and Volume**

15 3/4 in L x 15 3/4 in W x 14 1/4 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

Yellow or olive drab

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$177

<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 6.6 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 16 mils Ball burst (ASTM D3787–89) 90 psi Breaking strength—Grab (md/xd) (ASTM D5034) 90/84 lb Tearing strength—Trapezoid (md/xd) (ASTM D5597) 19/19 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 39**

***Tychem<sup>®</sup> BR Deluxe Level B Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

95136 (front entry)  
95636 (rear entry)

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, fully encapsulating, expanded back for SCBA, and PVC/Teflon<sup>®</sup> face shield

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

<b>Biological Warfare (BW) Agents Protected Against</b>	Not specified
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	A broad range of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 648, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> GB, HD, and VX: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) L: Greater than 2 h at 100 g/m <sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 636, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Emergency response, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	6 lb/ctn and 1 units/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	Yellow or olive drab
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection prior to use
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

<b>Unit Cost</b>	\$210
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 6.6 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 16 mils Ball burst (ASTM D3787–89) 90 psi Breaking strength—Grab (md/xd) (ASTM D5034) 90/84 lb Tearing strength—Trapezoid (md/xd) (ASTM D5597) 19/19 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 40**

*Tychem<sup>®</sup> TK Level B Fully Encapsulating Suit*



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

TK132 (front entry)  
TK133 (rear entry)

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, fully encapsulating, flat back for external air supply, and PVC face shield

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.



<b>Biological Warfare (BW) Agents Protected Against Toxic Industrial Materials (TIMs) Protected Against</b>	Not specified  Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GB, HD, VX, and L: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> . For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Emergency response, crisis management, remediation, and gross decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	5 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	15 3/4 in L x 15 3/4 in W x 14 1/4 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Fittings available for most commercially available pass-throughs.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection prior to use
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

<b>Unit Cost</b>	\$219
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	Suit bag included. Pass-throughs available. Must be ordered separately.

**Special Requirements**

<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776) 10.6 oz/yd <sup>2</sup> Thickness (ASTM D1777) 26 mils Ball burst (ASTM D3787) 187 psi Breaking strength—Grab (md/xd) (ASTM D15034) 188/180 lb Tearing strength—Trapezoid (md/xd) (ASTM D5733) 53/52 lb Permeation data available by calling 1-877-797-5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 41**

***Tychem<sup>®</sup> TK Level B Fully Encapsulating Suit***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

TK135 (front entry)  
TK635 (rear entry)

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, fully encapsulating, expanded back for SCBA, and PVC face shield

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GB, HD, VX, and L: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> . For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Emergency response, crisis management, remediation, and gross decontamination
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	5 lb/ctn and 1 unit/ctn
<b>Package Size and Volume</b>	15 3/4 in L x 15 3/4 in W x 14 1/4 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection prior to use
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$258
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials

<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776) 10.6 oz/yd <sup>2</sup> Thickness (ASTM D1777) 26 mils Ball burst (ASTM D3787) 187 psi Breaking strength—Grab (md/xd) (ASTM D15034) 188/180 lb Tearing strength—Trapezoid (md/xd) (ASTM D5733) 53/52 lb Permeation data available by calling 1-877-797-5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 42**

*Tychem<sup>®</sup> TK Deluxe Level B Fully Encapsulating Suit*



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

TK136 (front entry)  
TK636 (rear entry)

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, fully encapsulating, expanded back for SCBA, and PVC/Teflon<sup>®</sup> face shield

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

<b>Biological Warfare (BW) Agents Protected Against</b>	Not specified
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GB, HD, VX, and L: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> . For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Emergency response, crisis management, remediation, and gross decontamination
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	8 lb/ctn and 1 units/ctn
<b>Package Size and Volume</b>	22 in L x 22 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection prior to use
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

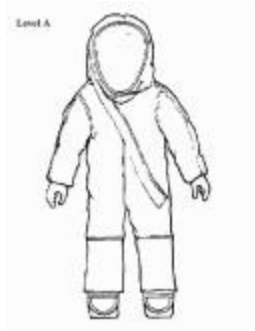
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$290
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	Instructions for Don/Doff are included with each suit. Assistance required for donning and doffing. Average donning time 2 min and 2 s. Average doffing time is 33 s.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Technical data package and permeation guide with each suit
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776) 10.6 oz/yd <sup>2</sup> Thickness (ASTM D1777) 26 mils Ball burst (ASTM D3787) 187 psi Breaking strength—Grab (md/xd) (ASTM D15034) 188/180 lb Tearing strength—Trapezoid (md/xd) (ASTM D5733) 53/52 lb Permeation data available by calling 1-877-797-5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit



**General**

**Name**  
**ID# 43**

***Disposable Toxicological Agent Protective Suit (DTAP)/Level A***



**Technology**

DuPont Barricade, an impermeable nonwoven multi-laminate material

**Stock Number**

GEOMET P/N 38277

**Protection Type**

Level A, Percutaneous, and respiratory

**Equipment Category**

Level A toxicological agent protective suit, disposable

**Availability**

1 July 2001

**Current User(s)**

Not applicable

**Manufacturer**

GEOMET Technologies, Inc.  
20251 Century Blvd., Suite 300  
Germantown, MD 20874  
POC: Jef Harris  
301-428-9898 (Tel)  
301-428-9482 (Fax)

**Manufacturer Type**

Domestic

**Developer**

GEOMET Technologies, Inc., Germantown, MD, under contract with the Office of Special Technology

**Source**

[www.nbcprotect.com](http://www.nbcprotect.com)

**Certification**

Projected to be certified under NFPA 1994 and approved by the U.S. Army Material Command Chemical Agent Safety and Health Policy Action Committee (CASHPAC) for military use

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Material swatches tested against GA, GB, GD, GF, t-HD, HN, L, and VX

**Biological Warfare (BW)  
Agents Protected Against**

Material is protective against bacteria, protozoans, rickettsia, toxins, and viruses. Biopenetration resistance testing in accordance with ASTM F 1671, Standard Test Method for Resistance of Materials Used in Protective Clothing to Penetration by Blood-Borne Pathogens Using Phi-X174 Bacteriophage Penetration as a Test System.

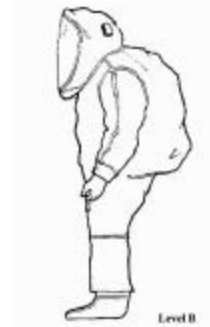
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Material is protective against the 21 chemicals listed in ASTM F 1001 and numerous other TIMs. For specific chemicals, refer to DuPont's Permeation Guide for Tychem Fabrics and the DuPont Tyvek Fax-on-Demand Data Service (800-558-9329).
<b>Duration of Protection</b>	Over 8 h for most chemicals
<b>Recommended Use(s)</b>	Military, Federal, State and local first responders to CB incidents, including IDLH and confined space entry and mitigation operations
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S, M, L, XL, XXL, and XXXL
<b>Weight</b>	Approximately 5 lb 6 oz for size small up to 6 lb for size XXXL
<b>Package Size and Volume</b>	From 24 in x 20 in x 9 in (2.5 ft <sup>3</sup> ) for size small to 29 in x 23 in x 10 in (to 3.86 ft <sup>3</sup> ) for size XXXL
<b>Power Requirements</b>	None; optional cooling system requires three size D alkaline batteries, which will last up to 4 h
<b>Material Type</b>	5 mil Tychem DP, which is an impermeable nonwoven multi-laminant material
<b>Construction Type</b>	Sewn and seams heat sealed with overtape
<b>Color</b>	Olive drab green
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Level A DTAP suit features fully integrated sub-systems. Restrictions on mobility and flexibility include those normally associated with wearing an SCBA.
<b>Consumables</b>	None; if using optional cooling system, three size D alkaline batteries and ice are consumable items
<b>Maintenance Requirements</b>	None
<b>Shelf Life</b>	5 yr—Store at room temperature
<b>Transportability</b>	Suit will be sealed in a plastic bag
<b>Operational Limitations</b>	Operations are limited by the air capacity of the SCBA. Operations can be extended up to 4 h by using a rebreather with the optional cooling system to manage heat stress.
<b>Environmental Conditions</b>	The equipment is designed to operate under all common environmental conditions and climates; use is primarily limited by the SCBA operational parameters
<b>Unit Cost</b>	\$494 to \$513
<b>Maintenance Cost</b>	None
<b>Warranty</b>	1 yr (parts and labor)

<b>Don/Doff Information</b>	“Buddy” required for donning. System can be doffed by the user.
<b>Use/Reuse</b>	Level A suit is disposable. However, if not contaminated during emergency operations, suit can be downgraded for use as a training suit. Suits must be disposed after any liquid or vapor chemical exposure.
<b>Launderability</b>	Hand wash with mild detergent and biocide after each training use; suit can be laundered and reused as a training suit only.
<b>Accessories</b>	Gloves, integral booties, visor, and antifog compound. Cooling system is available as an option.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	2 h for operation
<b>Training Available</b>	Yes
<b>Manuals Available</b>	Commercial operating manual
<b>Surveillance Testing Requirements</b>	None
<b>Support Equipment</b>	Biocide, chemical protective boots, and self-contained breathing apparatus (or rebreather). Level A DTAPS is compatible with all commercial SCBAs and rebreathers (closed circuit systems). Cooling system is available as an option, which requires ice or a freezer to freeze ice bottles. Also, the Communications-Applied Technology intrinsically-safe DWIS radio system is available as an option.
<b>Testing Information</b>	U.S. Army methyl salicylate (MeS) man-in-simulant test (MIST, TOP 10–2–022); passed ASTM Spray Test (ASTM F 1359–97); passed NFPA 1991, Overall Ensemble Inward Leakage Test [sulfur hexafluoride (SF6) test]; ASTM D 3786 Mullen burst = 190 psi; ASTM D 5034 Breaking strength–Grab (md/cd) = 99/95 lb; ASTM D 1117 Tearing strength–Trapezoid (md/cd) = 25/24 lb; ASTM D 751 = 45 lbf; ASTM D 2582 = 11 lbf; ASTM D 747 = 0.50 in-lbf
<b>Applicable Regulations</b>	29 CFR 1910.120
<b>Health Hazards</b>	All materials are considered non-hazardous. MSDS on Tychem DP material available upon request. Contaminated suits should be treated as hazardous waste and must be disposed of in accordance with established procedures, regulations, and laws. Contaminated garments should be landfilled, but can be incinerated.
<b>Communications Interface Capability</b>	Level A DTAPS is compatible with various commercial radio systems, such as the optional intrinsically-safe DWIS radio system
<b>EOD Compatibility</b>	Not to be used with fused munitions or in explosive or flammable atmospheres

**General**

**Name**  
**ID# 44**

***Disposable Toxicological Agent Protective Suit (DTAP)/Level B***



**Technology** DuPont Barricade, an impermeable nonwoven multi-laminate material

**Stock Number** GEOMET P/N 38278

**Protection Type** Level B, Percutaneous, and respiratory

**Equipment Category** Level B toxicological agent protective suit, disposable

**Availability** 1 July 2001

**Current User(s)** Not applicable

**Manufacturer** GEOMET Technologies, Inc.  
20251 Century Blvd., Suite 300  
Germantown, MD 20874  
POC: Jef Harris  
301-428-9898 (Tel)  
301-428-9482 (Fax)

**Manufacturer Type** Domestic

**Developer** GEOMET Technologies, Inc., Germantown, MD, under contract with the Office of Special Technology

**Source** [www.nbcprotect.com](http://www.nbcprotect.com)

**Certification** Projected to be certified under NFPA 1994

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Material swatches tested against GA, GB, GD, GF, t-HD, HN, L, and VX

**Biological Warfare (BW)  
Agents Protected Against**

Material is protective against bacteria, protozoans, rickettsia, toxins, and viruses. Biopenetration resistance testing in accordance with ASTM F 1671, Standard Test Method for Resistance of Materials Used in Protective Clothing to Penetration by Blood-Borne Pathogens Using Phi-X174 Bacteriophage Penetration as a Test System.

**Toxic Industrial Materials  
(TIMs) Protected Against**

Material is protective against the 21 chemicals listed in ASTM F 1001 and numerous other TIMs. For specific chemicals, refer to DuPont's Permeation Guide for Tychem Fabrics and the DuPont Tyvek Fax-on-Demand Data Service (800-558-9329).

<b>Duration of Protection</b>	Over 8 h for most chemicals
<b>Recommended Use(s)</b>	Military, Federal, State and local first responders to CB incidents, including IDLH and nonconfined space entry and mitigation operations where less skin protection is required than Level A

**Physical Parameters**

<b>Sizes Available</b>	S, M, L, XL, XXL, and XXXL
<b>Weight</b>	Approximately 5 lb 6 oz for size small up to 6 lb for size XXXL
<b>Package Size and Volume</b>	From 24 in x 20 in x 9 in (2.5 ft <sup>3</sup> ) for size small to 29 in x 23 in x 10 in (to 3.86 ft <sup>3</sup> ) for size XXXL
<b>Power Requirements</b>	None; optional cooling system requires three size D alkaline batteries, which will last up to 4 h
<b>Material Type</b>	3 mil Tychem LV, which is an impermeable nonwoven multi-laminant material
<b>Construction Type</b>	Sewn and seams heat sealed with overtape
<b>Color</b>	Olive drab green

**Logistical Parameters**

<b>Ease of Use</b>	Level B DTAP suit features fully integrated sub-systems. Restrictions on mobility and flexibility include those normally associated with wearing an SCBA.
<b>Consumables</b>	None; if using optional cooling system, three size D alkaline batteries and ice are consumable items
<b>Maintenance Requirements</b>	None
<b>Shelf Life</b>	5 yr—Store at room temperature
<b>Transportability</b>	Suit will be sealed in a plastic bag
<b>Operational Limitations</b>	Operations are limited by the air capacity of the SCBA. Operations can be extended up to 4 h by using a rebreather with the optional cooling system to manage heat stress.
<b>Environmental Conditions</b>	The equipment is designed to operate under all common environmental conditions and climates; use is primarily limited by the SCBA operational parameters
<b>Unit Cost</b>	\$225 to \$300
<b>Maintenance Cost</b>	None
<b>Warranty</b>	1 yr (parts and labor)
<b>Don/DoFF Information</b>	“Buddy” required for donning. System can be doffed by the user.

<b>Use/Reuse</b>	Level B suit is disposable. However, if not contaminated during emergency operations, suit can be downgraded for use as a training suit. Suits must be disposed after any liquid or vapor chemical exposure.
<b>Launderability</b>	Hand wash with mild detergent and biocide after each training use; suit can be laundered and reused as a training suit only
<b>Accessories</b>	Gloves, integral booties, visor, and antifog compound. Cooling system is available as an option.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	2 h for operation
<b>Training Available</b>	Yes
<b>Manuals Available</b>	Commercial operating manual
<b>Surveillance Testing Requirements</b>	None
<b>Support Equipment</b>	Biocide, chemical protective boots, and self-contained breathing apparatus (or rebreather). Level B DTAPS is compatible with all commercial SCBAs and rebreathers (closed circuit systems). Cooling system is available as an option, which requires ice or a freezer to freeze ice bottles. Also, the C-AT intrinsically-safe DWIS radio system is available as an option.
<b>Testing Information</b>	U.S. Army methyl salicylate (MeS) man-in-simulant test (MIST, TOP 10–2–022); passed ASTM Spray Test (ASTM F 1359–97); passed NFPA 1991, Overall Ensemble Inward Leakage Test [sulfur hexafluoride (SF6) test]; ASTM D 751 = 35 lbf; ASTM D 258= 7 lbf; ASTM D 747 = 0.50 in-lbf
<b>Applicable Regulations</b>	29 CFR 1910.120
<b>Health Hazards</b>	All materials are considered nonhazardous. MSDS on Tychem LV material available upon request. Contaminated suits should be treated as hazardous waste and must be disposed of in accordance with established procedures, regulations, and laws. Contaminated garments should be landfilled, but can be incinerated.
<b>Communications Interface Capability</b>	Level B DTAPS is compatible with various commercial radio systems, such as the optional intrinsically-safe DWIS radio system
<b>EOD Compatibility</b>	Not to be used with fused munitions or in explosive or flammable atmospheres

**General**

**Name**  
**ID# 45**

***EUROLITE NBC-Protection Suit***

Picture Not Available

**Technology**

Rolamit-NBC Barrierfilm, a 7-layer polyolefin film laminated in staggered angles with three layers on either side with a middle barrier of EVOH; impermeable; self-extinguishing

**Stock Number**

Stock number of MoD Austria: 4240-0-775-8701

**Protection Type**

Percutaneous

**Equipment Category**

Suit

**Availability**

In production since 1993

**Current User(s)**

Various special warfare forces in US. For Navy: Mr. Tim Gill, NBC officer, COMNAVSPECWARCOM, San Diego, tel 619 437 3940; Austrian Army; Swiss Civil Defense; Austrian Telecom; Austrian Ministry of Interior

**Manufacturer**

Goetzloff GmbH  
Schirmerstrasse 28, A-4060  
Leonding-Linz, Austria  
POC: Mr. Lewis B. Sykes (U.S. Liaison)  
703-504-0260 (Tel)  
e-mail: LBS1328@aol.com

**Manufacturer Type**

Foreign

**Developer**

Goetzloff GmbH

**Source**

Goetzloff GmbH

**Certification**

Ministry of Defense, Austria

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Classical nerve and blister agents; test documents can be supplied on request

**Biological Warfare (BW)  
Agents Protected Against**

Classical BW agents; test documents can be supplied on request

**Toxic Industrial Materials  
(TIMs) Protected Against**

TIMs tested according ASTM F 1001

**Duration of Protection**

Depends on the situation; e.g., in excess of 24 h against Mustard in worst-case scenarios

**Recommended Use(s)**

Tactical and crisis management

**Physical Parameters**

<b>Sizes Available</b>	S, M, L, XL
<b>Weight</b>	650 grams (23 ounces)
<b>Package Size and Volume</b>	7.1 in x 7.1 in x 2 in
<b>Power Requirements</b>	None
<b>Material Type</b>	Rolamit-NBC Barrierfilm, a 7-layer polyolefin film laminated in staggered angles with three layers on either side with a middle barrier of EVOH; impermeable; self-extinguishing
<b>Construction Type</b>	Yes; heat sealed
<b>Color</b>	Standard color is military green, other colors on request
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	User has complete freedom of movement; glove has three fingers
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	None
<b>Shelf Life</b>	Indefinite when stored in original wrapper
<b>Transportability</b>	Not applicable
<b>Operational Limitations</b>	Not specified
<b>Environmental Conditions</b>	Designed to be worn under common environmental conditions found in the field
<b>Unit Cost</b>	\$37/two-piece uniform in lots of 10000 uniforms
<b>Maintenance Cost</b>	None
<b>Warranty</b>	20 yr in unconditioned store
<b>Don/Doff Information</b>	No assistance required for donning or doffing
<b>Use/Reuse</b>	Reusable
<b>Launderability</b>	Can be laundered multiple times with standard detergents and maintain their effectiveness; standard decon procedures can be used
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	About 5 min or less for instructor to don and explain features of uniform
<b>Training Available</b>	None required
<b>Manuals Available</b>	None required
<b>Surveillance Testing Requirements</b>	Visual inspection before and after each use



<b>Support Equipment</b>	None
<b>Testing Information</b>	Test data can be obtained on request
<b>Applicable Regulations</b>	Our products are tested by TNO, which certifies NATO standard for our products
<b>Health Hazards</b>	None; incineration results in no toxic residues
<b>Communications Interface Capability</b>	Not specified
<b>EOD Compatibility</b>	Not specified

**General**

**Name**  
**ID# 46**

***Chemturion<sup>®</sup> Suit: Model 13 Level A***



**Technology**

Cloropel<sup>®</sup>, an enhanced CPE with improved performance characteristics. Impermeable chlorinated polyethylene. Contains thermoplastic materials, self-extinguishing.

**Stock Number**

Model 13 SCBA, reusable

**Protection Type**

Level A, Percutaneous and respiratory (SCBA)

**Equipment Category**

Level A, suit

**Availability**

In production since 1980

**Current User(s)**

Fyr Fyter Sales and Service  
608 S. Broad Street  
Mobile, AL 36603

**Manufacturer**

ILC Dover, Inc.  
1 Moonwalker Road  
Frederica, DE 19946-2080  
POC: Rhonda Haller  
800-631-9567 (Tel)  
302-335-1320 (Fax)

**Manufacturer Type**

Domestic

**Developer**

ILC Dover, Inc.

**Source**

Internet: [www.ilcdover.com](http://www.ilcdover.com)  
E-mail: [haller@ilcdover.com](mailto:haller@ilcdover.com)

**Certification**

Not applicable for reusable Level A suits

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

HD, GB, and VX

**Biological Warfare (BW)  
Agents Protected Against**

Provides PF of 100000. Suit is air and gas tight, and operates at a positive pressure. A different model (same suit material) is used at Atlanta CDC and Ft. Detrick.

**Toxic Industrial Materials (TIMs) Protected Against**

Tested against ASTM F1001 list of chemicals and against jet fuels

**Duration of Protection**

Depends on the chemical challenge

**Recommended Use(s)**

Valuable for remote HAZMAT spill cleanup. Designed to be worn with a wide range of self-contained breathing systems.

### Physical Parameters

<b>Sizes Available</b>	Three sizes: M (5' 3" to 5' 9"), L (5' 7" to 6' 1"), and XL (6' 0" to 6' 5")
<b>Weight</b>	5 lb
<b>Package Size and Volume</b>	22 in x 6 in x 26 in
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Impermeable chlorinated polyethylene. Contains thermoplastic materials, self-extinguishing.
<b>Construction Type</b>	RF heat sealed seams
<b>Color</b>	Light blue

### Logistical Parameters

<b>Ease of Use</b>	Unrestricted movement, range of motion, and field of view. Lightweight design lessens fatigue.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	None
<b>Shelf Life</b>	>5 yr
<b>Transportability</b>	Transportable via air, ground, or sea
<b>Operational Limitations</b>	Not specified
<b>Environmental Conditions</b>	Operational: 0 °F to 125 °F. Storage: 0 °F to 165 °F. Resistant and operable in salt fog, high/low humidity, and rain.
<b>Unit Cost</b>	\$1.4K to \$1.6K
<b>Maintenance Cost</b>	\$0
<b>Warranty</b>	90 d on defects in materials and workmanship
<b>Don/Doff Information</b>	Self-donning and doffing
<b>Use/Reuse</b>	Reusable (unlimited)
<b>Launderability</b>	No limit to machine or hand washing. Use mild soap solution.
<b>Accessories</b>	Wrist rings and visor splash shields

### Special Requirements

<b>Training Requirements</b>	Very low—follow instructions in user's manual
<b>Training Available</b>	None required
<b>Manuals Available</b>	User's manual included with each suit
<b>Surveillance Testing Requirements</b>	After initial use, perform a pressure test before each use
<b>Support Equipment</b>	Breathing air, gloves, and boots

<b>Testing Information</b>	Available upon request
<b>Applicable Regulations</b>	Not applicable
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not specified
<b>EOD Compatibility</b>	Not specified

**General**

**Name**  
**ID# 47**

***Chemturion® Suit: Model 35 Level A Laboratory Suit***



**Technology**

Cloropel®, an enhanced CPE with improved performance characteristics. High volume airflow, made possible by multiple exhaust valves, supplies added cooling. Hood contains press-polished optical grade 40 mil vinyl in the visual areas. Internal easement permits head movement for 300° of vision.

**Stock Number**

Model 35 Laboratory Suit, reusable

**Protection Type**

Level A, Percutaneous and respiratory

**Equipment Category**

Level A totally encapsulating biological/chemical protective suit. Suit entry is from the front.

**Availability**

Not specified

**Current User(s)**

Not specified

**Manufacturer**

ILC Dover, Inc.  
1 Moonwalker Road  
Frederica, DE 19946-2080  
POC: Rhonda Haller  
800-631-9567 (Tel)  
302-335-1320 (Fax)

**Manufacturer Type**

Domestic

**Developer**

ILC Dover, Inc

**Source**

Internet: [www.ilcdover.com](http://www.ilcdover.com)  
E-mail: [haller@ilcdover.com](mailto:haller@ilcdover.com)

**Certification**

Not applicable for reusable Level A suits

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

HD, GB, and VX

**Biological Warfare (BW)  
Agents Protected Against**

Provides PF of 100000. Suit is air and gas tight, and operates at a positive pressure. Used at Atlanta CDC and Ft. Detrick, as well as pharmaceutical companies.

**Toxic Industrial Materials  
(TIMs) Protected Against**

Tested against ASTM F1001 list of chemicals and against jet fuels

**Duration of Protection**

Depends on the chemical challenge

**Recommended Use(s)**

Ideal for laboratory and clean use. High visibility hood allows for enhanced vision. Offers >100000 protection factor rating.

**Physical Parameters**

<b>Sizes Available</b>	The suit is available in four sizes to fit 5' 0" to 66". A belt is added to support optional equipment and to allow for a more conformal fit.
<b>Weight</b>	4 lb
<b>Package Size and Volume</b>	22 in x 6 in x 26 in
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Cloropel® (chlorinated polyethylene) an enhanced CPE, 20 mil material. Visor is 40 mil vinyl.
<b>Construction Type</b>	RF heat-sealed seams. Suit is designed to minimize seams and permit user mobility without excessive suit shifting. The seams are dielectrically heat-sealed. The suit incorporates molded wrist cuffs with mating rubber wrist rings for attachment of your own chemical protective gloves. The suit legs terminate in integral booties worn inside your own chemical protective boots. Outer extruded closure in conjunction with inner restraint zipper. Outer extruded closure utilizes two parallel sealing lips, providing an effective penetration barrier.
<b>Color</b>	Blue
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Unrestricted movement, range of motion, and field of view. Lightweight design lessens fatigue. Internal easement permits head movement for 300° of vision.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	None
<b>Shelf Life</b>	>5 yr
<b>Transportability</b>	Transportable via air, ground, or sea
<b>Operational Limitations</b>	Not specified
<b>Environmental Conditions</b>	Operational: 0 °F to 125 °F. Storage: 0 °F to 165 F. Resistant and operable in salt fog, high/low humidity, and rain.
<b>Unit Cost</b>	\$2K
<b>Maintenance Cost</b>	\$0
<b>Warranty</b>	90 d on defects in materials and workmanship
<b>Don/Doff Information</b>	Self-donning and doffing
<b>Use/Reuse</b>	Reusable (unlimited)
<b>Launderability</b>	No limit to machine or hand washing. Use mild soap solution.
<b>Accessories</b>	Optional liquid cooling system (ILC COOL VEST* Model 19) is available to be worn under the garment. High purity filters and suit air conditioners are available. Wrist rings and visor splash shields.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Very low—follow instructions in user's manual
<b>Training Available</b>	None required
<b>Manuals Available</b>	User's manual included with each suit

<b>Surveillance Testing Requirements</b>	After initial use, perform a pressure test before each use
<b>Support Equipment</b>	Breathing air, gloves, and boots
<b>Testing Information</b>	Available upon request
<b>Applicable Regulations</b>	Not applicable
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not specified
<b>EOD Compatibility</b>	Not specified

**General**

**Name**

***Chemtursion® Suit: Ready 1 Model 91 Level A Chemical Protective Suit***

**ID# 48**



**Technology**

Multiple-fil and tough substrate composite material—high-barrier fabric. Impermeable, specialty laminate. Ready 1 material may emit low order of toxicity when burning.

**Stock Number**

Ready 1 Model 91, limited use

**Protection Type**

Level A, Percutaneous and respiratory, and limited use

**Equipment Category**

Level A, limited use chemical protective suit

**Availability**

In production since 1994

**Current User(s)**

Safety Kleen Corporation, 385 Turner Way, Aston, PA 19014; and Onyx Industrial Services, 6161 Executive Boulevard, Huber Heights, OH.

**Manufacturer**

ILC Dover, Inc.  
1 Moonwalker Road  
Frederica, DE 19946-2080  
POC: Rhonda Haller  
800-631-9567 (Tel)  
302-335-1320 (Fax)

**Manufacturer Type**

Domestic

**Developer**

ILC Dover, Inc.

**Source**

Internet: [www.ilcdover.com](http://www.ilcdover.com)  
E-mail: [haller@ilcdover.com](mailto:haller@ilcdover.com)

**Certification**

Not applicable for OSHA and NIOSH. None for NFPA.

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

HD, GB

**Biological Warfare (BW)  
Agents Protected Against**

Designed to be gas and air tight and to operate at positive pressure

**Toxic Industrial Materials  
(TIMs) Protected Against**

Tested against over 200 chemicals and jet fuels. Achieved breakthrough times greater than 480 min for over 95 % of chemicals.

**Duration of Protection**

Greater than 480 min for >95 % of chemicals

**Recommended Use(s)**

Chemical emergency

**Physical Parameters**



<b>Sizes Available</b>	Four sizes: M (5' 3" to 5' 9"), L (5' 7" to 6' 1"), XL (6' 0" to 6' 5"), and XXL (6' 2" to 6' 8")
<b>Weight</b>	4 lb
<b>Package Size and Volume</b>	22 in x 6 in x 26 in
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Impermeable, specialty laminate. Ready 1 material may emit low order of toxicity when burning. Multiple-fil and tough substrate composite material that is flexible, chemically resistant and economical.
<b>Construction Type</b>	Put together with sewn and heat-sealed seams that lock in protection while having superb physical strength. The rear zipper is protected by a cover flap that provides an extra protection barrier.
<b>Color</b>	Light blue

**Logistical Parameters**

<b>Ease of Use</b>	Unrestricted movement, range of motion, and field of view. Lightweight design lessens fatigue. Lightweight and tapered to give a fit that doesn't keep getting in the way. The rear zipper is protected by a cover flap that provides an extra protection barrier. Oversized sleeves allow maneuverability inside the suit.
<b>Consumables</b>	Not specified
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	>5 yr
<b>Transportability</b>	Transportable via air, ground, or sea
<b>Operational Limitations</b>	Not specified
<b>Environmental Conditions</b>	Operational: 0 °F to °125 F. Storage: 0 °F to 165 °F. Resistant and operable in salt fog, high/low humidity, and rain.
<b>Unit Cost</b>	\$525
<b>Maintenance Cost</b>	\$0
<b>Warranty</b>	90 d on defects in materials and workmanship
<b>Don/Doff Information</b>	Requires assistance of one person to don and doff
<b>Use/Reuse</b>	Designed for up to five uses
<b>Launderability</b>	Hand clean with mild soap solution
<b>Accessories</b>	Wrist rings and gloves

**Special Requirements**

<b>Training Requirements</b>	Very low—follow instructions in user's manual
<b>Training Available</b>	None required
<b>Manuals Available</b>	User's manual included with each suit

<b>Surveillance Testing Requirements</b>	After initial use, perform a pressure test before each use
<b>Support Equipment</b>	Breathing air, gloves, and boots
<b>Testing Information</b>	When tested in accordance with ASTM F739 it showed no permeation breakthrough after 8 h of exposure to the ASTM F1001 list of 21 chemicals and gases
<b>Applicable Regulations</b>	Not applicable
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not specified
<b>EOD Compatibility</b>	Not specified

**General**

**Name**  
**ID# 49**

***Chemturion<sup>®</sup> Suit: Model 84 Level A Total Encapsulating Suit***



**Technology**

Cloropel<sup>®</sup>, an enhanced chemically resistant CPE with improved performance characteristics. Hood/visor has chemical resistant, polyester splash visor.

**Stock Number**

Model 84 (SCBA and SCBA/Airline Models), reusable

**Protection Type**

Level A, Percutaneous and respiratory

**Equipment Category**

Level A, totally encapsulating chemical protective suit. It is used in conjunction with an internal SCBA to provide breathing air and positive internal pressure. Front suit entry.

**Availability**

In production since 1980

**Current User(s)**

Fyr Fyter Sales and Service  
608 S. Broad Street  
Mobile, AL 36603

**Manufacturer**

ILC Dover, Inc.  
1 Moonwalker Road  
Frederica, DE 19946-2080  
POC: Rhonda Haller  
800-631-9567 (Tel)  
302-335-1320 (Fax)

**Manufacturer Type**

Domestic

**Developer**

ILC Dover, Inc.

**Source**

Internet: [www.ilcdover.com](http://www.ilcdover.com)  
E-mail: [haller@ilcdover.com](mailto:haller@ilcdover.com)

**Certification**

Not applicable for Reusable Level A suits

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

HD, GB, VX

**Biological Warfare (BW)  
Agents Protected Against**

Provides PF of 100000. Suit is air and gas tight, and operates at a positive pressure. A different model (same suit material) is used at Atlanta CDC and Ft. Detrick.

**Toxic Industrial Materials (TIMs) Protected Against**

Tested against ASTM F1001 list of chemicals and against jet fuels

**Duration of Protection**

Depends on the chemical challenge

**Recommended Use(s)**

Valuable for remote HAZMAT spill cleanup. Designed to be worn with a wide range of self-contained breathing systems.

### **Physical Parameters**

<b>Sizes Available</b>	Three sizes: M (5' 3" to 5' 9"), L (5' 7" to 6' 1"), and XL (6' 0" to 6' 5")
<b>Weight</b>	5 lb
<b>Package Size and Volume</b>	22 in x 6 in x 26 in
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Impermeable chlorinated polyethylene. Contains thermoplastic materials, self-extinguishing.
<b>Construction Type</b>	Seams are dielectrically heat-sealed. The suit incorporates molded wrist cuffs with mating rubber wrist rings for attachment of your own chemical protective gloves. The suit legs terminate in integral booties worn inside your own chemical protective boots. Integral splashguards keep materials from entering the top of the boots.
<b>Color</b>	Light blue

### **Logistical Parameters**

<b>Ease of Use</b>	Unrestricted movement, range of motion, and field of view (full 180° of vision). Lightweight design lessens fatigue.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	None
<b>Shelf Life</b>	>5 yr
<b>Transportability</b>	Transportable via air, ground, or sea
<b>Operational Limitations</b>	Not specified
<b>Environmental Conditions</b>	Operational: 0 °F to 125 °F. Storage: 0 °F to 165 °F. Resistant and operable in salt fog, high/low humidity, and rain.
<b>Unit Cost</b>	\$1.5K to \$1.9K
<b>Maintenance Cost</b>	\$0
<b>Warranty</b>	90 d on defects in materials and workmanship
<b>Don/Doff Information</b>	Self-donning and doffing
<b>Use/Reuse</b>	Reusable (unlimited)
<b>Launderability</b>	No limit to machine or hand washing. Use mild soap solution.
<b>Accessories</b>	The ILC Cool Vest* Model 19 liquid cooling system for use under the suit. HAZMAT Bags store the protective gear. Antifog visors help prevent fogging. Replacement wrist rings and splash visors.

### **Special Requirements**

<b>Training Requirements</b>	Very low—follow instructions in user's manual
<b>Training Available</b>	None required
<b>Manuals Available</b>	User's manual included with each suit. A data package is provided with each suit that contains information regarding operation maintenance, testing and material compatibility. (Document #0000–72900).

<b>Surveillance Testing Requirements</b>	After initial use, perform a pressure test before each use
<b>Support Equipment</b>	Breathing air, gloves, and boots
<b>Testing Information</b>	Available upon request
<b>Applicable Regulations</b>	Not applicable
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not specified
<b>EOD Compatibility</b>	Not specified

**General**

**Name**  
**ID# 50**

***IPE (Individual Protection Equipment)***

Picture Not Available

**Technology**

Charcoal impregnated inner. Liquid chemical resistant outer fabric. Permeable fabric.

**Stock Number**

Various depending on configuration

**Protection Type**

Percutaneous

**Equipment Category**

Suit

**Availability**

In production 2000

**Current User(s)**

Earlier version used by Canadian Department of National Defense

**Manufacturer**

Irvin Aerospace Canada Ltd.  
P.O. Box 280  
479 Central Avenue  
Fort Erie, ON L2A 5M9  
POC: Doug Eaton  
905-871-6510 (Tel)  
905-871-6534 (Fax)

**Manufacturer Type**

Foreign

**Developer**

Irvin Aerospace Canada Ltd., with support of Canadian Department of National Defense

**Source**

Irvin Aerospace Canada Ltd.  
POC: Doug Eaton  
905 871-6510 (Tel)  
POC: Neil Pitts  
Inside Sales Manager NBC  
905 871-6510 (Tel)  
905 871-6534 (Fax)  
905 993-1975 (Cell)  
Npitts@irvincanada.com

**Certification**

Canadian Department of National Defense

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

All known military chemical agents

**Biological Warfare (BW)  
Agents Protected Against**

None

**Toxic Industrial Materials  
(TIMs) Protected Against**

Under study

**Duration of Protection**

24 h (in most cases)

<b>Recommended Use(s)</b>	Not specified
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	XXS to XXL (minimum seven sizes)
<b>Weight</b>	1 lb
<b>Package Size and Volume</b>	14 in x 14 in x 8 in
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Charcoal impregnated inner. Liquid chemical resistant outer fabric.
<b>Construction Type</b>	Sewn
<b>Color</b>	Per customer requirements
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Fully compatible with combat gear
<b>Consumables</b>	Not applicable
<b>Maintenance Requirements</b>	Not applicable
<b>Shelf Life</b>	10 yr minimum
<b>Transportability</b>	Fully transportable
<b>Operational Limitations</b>	Full military qualification
<b>Environmental Conditions</b>	All common military environmental conditions
<b>Unit Cost</b>	Approximately \$800 depending upon configuration. Volume dependant.
<b>Maintenance Cost</b>	Not applicable
<b>Warranty</b>	1 y
<b>Don/Doff Information</b>	None required
<b>Use/Reuse</b>	Reusable
<b>Launderability</b>	Laundering: clean in soapy water. Decon: operator dependent.
<b>Accessories</b>	Carrier bag, NBC boots, NBC gloves, and NBC gas mask
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	1 h
<b>Training Available</b>	Yes, operator and trainer courses available
<b>Manuals Available</b>	User/maintenance/repair
<b>Surveillance Testing Requirements</b>	Visual inspection
<b>Support Equipment</b>	None

<b>Testing Information</b>	Available from Irvin Aerospace Canada Ltd.
<b>Applicable Regulations</b>	Not applicable
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Fully compatible with combat gear



**General**

**Name**  
**ID# 51**

***Kappler Responder® Total Encapsulating Level A (Gas-Tight) Suit***



**Technology**

Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material

**Stock Number**

41350 (front entry)

**Protection Type**

Level A, Percutaneous (gas-tight)

**Equipment Category**

Level A, total encapsulating (gas-tight) suit with PVC faceshield, flat back, and exhaust valves

**Availability**

In stock

**Current User(s)**

Fire departments, HAZMAT response teams, and law enforcement

**Manufacturer**

Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kappler.com

**Manufacturer Type**

Domestic

**Developer**

Kappler Protective Apparel and Fabrics  
70 Grimes Drive  
Guntersville, AL 35976

**Source**

www.kappler.com

**Certification**

OSHA 1910.132 and OSHA 1910.120

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

HD, GB, GD, L, and VX

**Biological Warfare (BW)  
Agents Protected Against**

Not applicable

**Toxic Industrial Materials  
(TIMs) Protected Against**

POC Kappler for permeation guides

<b>Duration of Protection</b>	POC Kappler for permeation guides
<b>Recommended Use(s)</b>	Emergency HAZMAT teams, chemical handling, chemical warfare protection and when protection is needed against potential flash fire and/or NFPA certified garments are required
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S, M, L, XL, 2X, and 3X
<b>Weight</b>	9 lb/4.1 kg, one per case
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material
<b>Construction Type</b>	Taped seam—seam produced when a sewn seam is covered with a strip of compatible material. The strip is attached by heat-sealing as with film laminated materials.
<b>Color</b>	Blue
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Some instruction required
<b>Consumables</b>	Not applicable
<b>Maintenance Requirements</b>	Suits should be stored in a cool dry area away from direct sunlight. Level A garments should have a visual test and be pressure tested according to the ASTM F1052 Air Pressure Test Method upon arrival from manufacture, annually and/or after each use, and a quick re-inspection before each use.
<b>Shelf Life</b>	Under proper storage conditions, there is no evidence to indicate that the System CPF <sup>®</sup> film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of “aged” and new Responder <sup>®</sup> fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to “Training Use Only” be considered when they no longer pass the visual inspection and/or pressure test.
<b>Transportability</b>	Not applicable
<b>Operational Limitations</b>	There are uses and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified government and industry standards. CAUTION: Do not use for fire protection. Avoid open flame or intense heat.

<b>Environmental Conditions</b>	Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, causing the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in POC with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, “Standard Test Method for Coated Fabrics—Low Temperature Bend Test.” This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.
<b>Unit Cost</b>	POC customer service for pricing
<b>Maintenance Cost</b>	Product is designed for limited use
<b>Warranty</b>	It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling which results from conditions beyond the control of the manufacturer.
<b>Don/Doff Information Use/Reuse</b>	See Level A instruction manual for instructions on donning and doffing See Level A instruction manual for suggestions on decontamination
<b>Launderability Accessories</b>	See Level A instruction manual for suggestions on decontamination Additional accessories that may be purchased include pressure test kit, chemtape, kooljacket, Tingley HAZMAT boot, and decon shower
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Some instruction required
<b>Training Available Manuals Available</b>	Level A instruction manual, training video, and Suit Smart CD Level A instruction manual

<b>Surveillance Testing Requirements</b>	Visual inspection and in the case of Level A garments pressure testing according to ASTM F1052 upon receipt from manufacturer, after each use and/or annually, and before reuse
<b>Support Equipment</b>	Appropriate respiratory equipment
<b>Testing Information</b>	See attached permeation guides
<b>Applicable Regulations</b>	OSHA 1910.132 and OSHA 1910.120
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Not applicable

**General**

**Name**  
**ID# 52**

***Kappler Responder® Total Encapsulating Level A Suit***



**Technology** Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material

**Stock Number** 41550 (front entry)  
41551 (rear entry)

**Protection Type** Level A, Percutaneous

**Equipment Category** Level A, total encapsulating suit, expanded back, and front/rear entry

**Availability** In stock

**Current User(s)** Fire departments, HAZMAT response teams, and law enforcement

**Manufacturer** Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kappler.com

**Manufacturer Type** Domestic

**Developer** Kappler Protective Apparel and Fabrics  
70 Grimes Drive  
Guntersville, AL 35976

**Source** www.kappler.com

**Certification** OSHA 1910.132 and OSHA 1910.120

**Operational Parameters**

**Chemical Warfare (CW) Agents Protected Against** HD, GB, GD, L, and VX

**Biological Warfare (BW) Agents Protected Against** Not applicable

**Toxic Industrial Materials (TIMs) Protected Against** POC Kappler for permeation guides

**Duration of Protection** POC Kappler for permeation guides

<b>Recommended Use(s)</b>	Emergency HAZMAT teams, chemical handling, chemical warfare protection and when protection is needed against potential flash fire and/or NFPA certified garments are required
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S, M, L, XL, 2X, and 3X
<b>Weight</b>	Average packaging weight is 9 lb
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material
<b>Construction Type</b>	Taped seam—seam produced when a sewn seam is covered with a strip of compatible material. The strip is attached by heat-sealing as with film laminated materials.
<b>Color</b>	Blue
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Some instruction required
<b>Consumables</b>	Not applicable
<b>Maintenance Requirements</b>	Suits should be stored in a cool dry area away from direct sunlight. Level A garments should have a visual test and be pressure tested according to the ASTM F1052 Air Pressure Test Method upon arrival from manufacture, annually and/or after each use, and a quick re-inspection before each use.
<b>Shelf Life</b>	Under proper storage conditions, there is no evidence to indicate that the System CPF <sup>®</sup> film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of “aged” and new Responder <sup>®</sup> fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to “training use only” be considered when they no longer pass the visual inspection and/or pressure test.
<b>Transportability</b>	Not applicable
<b>Operational Limitations</b>	There are uses and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified government and industry standards. CAUTION: Do not use for fire protection. Avoid open flame or intense heat.

**Environmental Conditions**

Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, “Test Methods for Coated Fabrics,” using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in POC with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, “Standard Test Method for Coated Fabrics—Low Temperature Bend Test.” This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.

**Unit Cost**

POC customer service for pricing

**Maintenance Cost**

Product is designed for limited use

**Warranty**

It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of the product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.

**Don/Doff Information**

See Level A instruction manual for instructions on donning and doffing

**Use/Reuse**

See Level A instruction manual for suggestions on decontamination

**Laundryability**

See Level A instruction manual for suggestions on decontamination

**Accessories**

Additional accessories that may be purchased include pressure test kit, chemtape, kooljacket, Tingley HAZMAT boot, and decon shower

**Special Requirements**

**Training Requirements**

Some instruction required

<b>Training Available</b>	Level A instruction manual, training video, and Suit Smart CD
<b>Manuals Available</b>	Level A Instruction Manual
<b>Surveillance Testing Requirements</b>	Visual inspection and in the case of Level A garments, pressure testing according to ASTM F1052 upon receipt from manufacturer, after each use and/or annually, and before reuse
<b>Support Equipment</b>	Appropriate respiratory equipment
<b>Testing Information</b>	See permeation guides
<b>Applicable Regulations</b>	OSHA 1910.132 and OSHA 1910.120
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Not applicable



**General**

**Name**  
**ID# 53**

***Kappler Total Encapsulating Level A Suit***



**Technology**

Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material

**Stock Number**

41580 (front entry)  
41581 (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, total encapsulating suit, expanded back, exhaust valves; HAZMAT version includes double taped seams, FEP overlay lens, and 4H/Butyl glove combination

**Availability**

In stock

**Current User(s)**

Fire departments, HAZMAT response teams, and law enforcement

**Manufacturer**

Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kappler.com

**Manufacturer Type**

Domestic

**Developer**

Kappler Protective Apparel and Fabrics  
70 Grimes Drive  
Gunterville, AL 35976  
www.kappler.com

**Source**

**Certification**

None

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

HD, GB, GD, L, and VX

**Biological Warfare (BW)  
Agents Protected Against**

Not applicable

**Toxic Industrial Materials  
(TIMs) Protected Against**

POC Kappler for permeation guides

**Duration of Protection**

POC Kappler for permeation guides

**Recommended Use(s)** Emergency HAZMAT teams, chemical handling, chemical warfare protection and when protection is needed against potential flash fire and/or NFPA certified garments are required

**Physical Parameters**

**Sizes Available** S, M, L, XL, 2X, and 3X

**Weight** Average packaging weight is 9 lb

**Package Size and Volume** Not specified

**Power Requirements** Not applicable

**Material Type** Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material

**Construction Type** Seams are double taped—produced when a sewn seam is covered with a strip of compatible material on both the inside and the outside of the suit. The strip is attached by heat-sealing as with film laminated fabrics.

**Color** Blue

**Logistical Parameters**

**Ease of Use** Some instruction required

**Consumables** Not applicable

**Maintenance Requirements** Suits should be stored in a cool dry area away from direct sunlight. Level A garments should have a visual test and be pressure tested according to the ASTM F1052 Air Pressure Test Method upon arrival from manufacture, annually and/or after each use, and a quick re-inspection before each use.

**Shelf Life** Under proper storage conditions, there is no evidence to indicate that the System CPF<sup>®</sup> film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of “aged” and new Responder<sup>®</sup> fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to “training use only” be considered when they no longer pass the visual inspection and/or pressure test.

**Transportability** Not applicable

**Operational Limitations** There are uses and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified government and industry standards. CAUTION: Do not use for fire protection. Avoid open flame or intense heat.

**Environmental Conditions**

Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, “Test Methods for Coated Fabrics,” using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in POC with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, “Standard Test Method for Coated Fabrics—Low Temperature Bend Test.” This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.

**Unit Cost**

POC customer service for pricing

**Maintenance Cost**

Product is designed for limited use

**Warranty**

It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.

**Don/Doff Information**

See Level A instruction manual for instructions on donning and doffing

**Use/Reuse**

See Level A instruction manual for suggestions on decontamination

**Laundryability**

See Level A instruction manual for suggestions on decontamination

**Accessories**

Additional accessories that may be purchased include pressure test kit, chemtape, kooljacket, Tingley HAZMAT boot, and decon shower

**Special Requirements**

**Training Requirements**

Some instruction required

<b>Training Available</b>	Level A instruction manual, training video, and Suit Smart CD
<b>Manuals Available</b>	Level A instruction manual
<b>Surveillance Testing Requirements</b>	Visual inspection and in the case of Level A garments, pressure testing according to ASTM F1052 upon receipt from manufacturer, after each use and/or annually, and before reuse
<b>Support Equipment</b>	Appropriate respiratory equipment
<b>Testing Information</b>	See permeation guides
<b>Applicable Regulations</b>	OSHA 1910.132 and OSHA 1910.120
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Not applicable

**General**

**Name**  
**ID# 54**

***Kappler Responder<sup>®</sup> Plus Total Encapsulating Level A Suit***



**Technology**

Multiple barrier films laminated to both sides of tough composite substrate material. View window made of 40 mil press polished PVC with overlay of 5 mil FEP Teflon permanently attached over visor.

**Stock Number**

43580 (front entry)  
43581 (rear entry)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, total encapsulating suit, expanded back, and exhaust valves

**Availability**

In stock

**Current User(s)**

REC's Customers:  
EPA; Department of State Consequence Management and Diplomatic Security Division; State of NY; NYC Police; City of Mobile, AL; Department of Justice Center for Domestic Preparedness; FBI; Wisconsin Office of Emergency Management; DOD; and Indiana Office of State Fire Marshall; Jefferson County, MO.

**Manufacturer**

Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kappler.com

**Manufacturer Type**

Domestic

**Developer**

Kappler Protective Apparel and Fabrics  
70 Grimes Drive  
Gunterville, AL 35976  
www.kappler.com

**Source**

**Certification**

None

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

HD, GB, GD, L, and VX

**Biological Warfare (BW)  
Agents Protected Against**

Not applicable

**Toxic Industrial Materials (TIMs) Protected Against** Carbon disulfide, sulfuric acid, ammonia, chlorine, hydrogen chloride, and ethylene oxide

**Duration of Protection** >480 min

**Recommended Use(s)** Broad range of chemical protection

**Physical Parameters**

**Sizes Available** S, M, L, XL, 2X, and 3X

**Weight** 9 lb/4.1 kg, one per case

**Package Size and Volume** Not specified

**Power Requirements** Not applicable

**Material Type** Multiple barrier film laminated to both sides of a tough composite substrate material. View window made of 40 mil press polished PVC with overlay of 5 mil FEP Teflon permanently attached over visor.

**Construction Type** Seams are double taped—produced when a sewn seam is covered with a strip of compatible material on both the inside and the outside of the suit. The strip is attached by heat-sealing as with film laminated fabric.

**Color** High visibility orange

**Logistical Parameters**

**Ease of Use** Suit accommodates a 1 h breathing apparatus, most respirator masks, and the use of a hard hat

**Consumables** Not applicable

**Maintenance Requirements** Suits should be stored in a cool dry area away from direct sunlight. Level A garments should have a visual test and be pressure tested according to the ASTM F1052 Air Pressure Test Method upon arrival from manufacture, annually and/or after each use, and a quick re-inspection before each use.

**Shelf Life** Under proper storage conditions, there is no evidence to indicate that the System CPF<sup>®</sup> film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of “aged” and new Responder<sup>®</sup> fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to “training use only” be considered when they no longer pass the visual inspection and/or pressure test.

**Transportability** Not applicable

**Operational Limitations** Temperature service range: -85 °F to 200 °F

<b>Environmental Conditions</b>	Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, “Test Methods for Coated Fabrics,” using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in POC with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, “Standard Test Method for Coated Fabrics—Low Temperature Bend Test.” This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.
<b>Unit Cost</b>	POC customer service for pricing
<b>Maintenance Cost</b>	Product is designed for limited use
<b>Warranty</b>	It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.
<b>Don/Doff Information</b>	See Level A instruction manual for instructions on donning and doffing
<b>Use/Reuse</b>	It is completely up to the discretion of the person wearing the suit. Kappler considers CPF 4 a limited use suit and reuse is based on both an evaluation of the physical state of the garment and also the level and type of chemical exposure.
<b>Launderability</b>	See instruction manual for instructions on donning and doffing
<b>Accessories</b>	Butyl gloves (with inner gloves), exhaust valves
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Some instruction required

<b>Training Available</b>	Training video, Suit Smart CD
<b>Manuals Available</b>	Instruction manual available
<b>Surveillance Testing Requirements</b>	Visual inspection and in the case of Level A garments, pressure testing according to ASTM F1052 upon receipt from manufacturer, after each use and/or annually, and before reuse
<b>Support Equipment</b>	Appropriate respiratory equipment
<b>Testing Information</b>	First fabric to pass ASTM 1001 Test Battery with no permeation breakthrough after 8 h
<b>Applicable Regulations</b>	OSHA 1910.132 and OSHA 1910.120
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Not applicable



**General**

**Name**  
**ID# 55**

***Kappler Responder® Total Encapsulating Level A Suit, NFPA 1991***



**Technology**

Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material

**Stock Number**

41560 (front entry)  
Pictured is 41550

**Protection Type**

Level A, Percutaneous (vapor protective)

**Equipment Category**

Level A, total encapsulating NFPA 1991 (vapor protective) Responder® suit, expanded back, covered exhaust valves, gloves, and sock boots

**Availability**

In stock

**Current User(s)**

Fire departments, HAZMAT response teams, and law enforcement

**Manufacturer**

Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kappler.com

**Manufacturer Type**

Domestic

**Developer**

Kappler Protective Apparel and Fabrics  
70 Grimes Drive  
Guntersville, AL 35976

**Source**

www.kappler.com

**Certification**

NFPA 1991, 2000 Edition (to comply with NFPA 1991 certification), must be worn with an aluminized overcover; 65160, fiberglass. NFPA 1991, 2000 Certified Responder Level A garment.

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

HD, GB, GD, L, and VX

**Biological Warfare (BW)  
Agents Protected Against**

Not applicable

**Toxic Industrial Materials  
(TIMs) Protected Against**

POC Kappler for permeation guides

**Duration of Protection**

POC Kappler for permeation guides

**Recommended Use(s)**

Emergency HAZMAT teams, chemical handling, chemical warfare protection and when protection is needed against potential flash fire and/or NFPA certified garments are required

**Physical Parameters**

**Sizes Available**

S, M, L, XL, 2X, and 3X

**Weight**

Average packaging weight is 9 lb

**Package Size and Volume**

Not specified

**Power Requirements**

Not applicable

**Material Type**

Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material

**Construction Type**

Seams are double taped—produced when a sewn seam is covered with a strip of compatible material on both the inside and the outside of the suit. The strip is attached by heat-sealing as with film laminated fabrics.

**Color**

Blue

**Logistical Parameters**

**Ease of Use**

Some instruction required

**Consumables**

Not applicable

**Maintenance Requirements**

Suits should be stored in a cool dry area away from direct sunlight. Level A garments should have a visual test and be pressure tested according to the ASTM F1052 Air Pressure Test Method upon arrival from manufacture, annually and/or after each use and a quick re-inspection before each use.

**Shelf Life**

Under proper storage conditions, there is no evidence to indicate that the System CPF® film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of “aged” and new Responder® fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to “training use only” be considered when they no longer pass the visual inspection and/or pressure test.

**Transportability**

Not applicable

**Operational Limitations**

There are uses and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified government and industry standards. CAUTION: Do not use for fire protection. Avoid open flame or intense heat.

**Environmental Conditions**

Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, “Test Methods for Coated Fabrics,” using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in POC with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, “Standard Test Method for Coated Fabrics—Low Temperature Bend Test.” This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.

**Unit Cost**

POC customer service for pricing

**Maintenance Cost**

Product is designed for limited use

**Warranty**

It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.

**Don/Doff Information**

See Level A instruction manual for instructions on donning and doffing

**Use/Reuse**

See Level A instruction manual for suggestions on decontamination

**Launderability**

See Level A instruction manual for suggestions on decontamination

**Accessories**

Additional accessories that may be purchased include pressure test kit, chemtape, kooljacket, Tingley HAZMAT boot, and decon shower

**Special Requirements**

**Training Requirements**

Some instruction required

**Training Available**

Level A instruction manual, training video, and Suit Smart CD

<b>Manuals Available</b>	Level A instruction manual
<b>Surveillance Testing Requirements</b>	Visual inspection and in the case of Level A garments, pressure testing according to ASTM F1052 upon receipt from manufacturer, after each use and/or annually, and before reuse
<b>Support Equipment</b>	Appropriate respiratory equipment
<b>Testing Information</b>	See attached permeation guides
<b>Applicable Regulations</b>	OSHA 1910.132 and OSHA 1910.120
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Not applicable

**General**

**Name**  
**ID# 56**

***Kappler Total Encapsulating Level B Suit***

Picture Not Available

**Technology**

Multi-layer barrier film laminated to a durable 2.0 oz polypropylene substrate. Greater physical strength and chemical hold-out protection when compared to other film products. Provides protection in rigorous activities and where there is potential for chemical splash.

**Stock Number**

3T545

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, totally encapsulating flat back suit, rear zipper with storm flap, PVC visor, covered exhaust port opening, attached overboots, and side air inlet

**Availability**

In stock

**Current User(s)**

Emergency HAZMAT teams, fire departments, and law enforcement

**Manufacturer**

Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kappler.com

**Manufacturer Type**

Domestic

**Developer**

Kappler Protective Apparel and Fabrics  
70 Grimes Drive  
Guntersville, AL 35976

**Source**

www.kappler.com

**Certification**

OSHA 1910.132 and OSHA 1910.120

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

HD, GB, GD, and VX

**Biological Warfare (BW)  
Agents Protected Against**

Not applicable

**Toxic Industrial Materials  
(TIMs) Protected Against**

POC Kappler for permeation guides

**Duration of Protection**

POC Kappler for permeation guides

**Recommended Use(s)**

Emergency HAZMAT teams, chemical handling, chemical warfare protection, hazardous wastes, and materials cleanups

**Physical Parameters**

<b>Sizes Available</b>	S–XL, 2X, and 3X
<b>Weight</b>	Average packaging weight is 13 lb
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Multi-layer barrier film laminated to a durable 2.0 oz polypropylene substrate. Greater physical strength and chemical hold-out protection when compared to other film products. Provides protection in rigorous activities and where there is potential for chemical splash.
<b>Construction Type</b>	Taped seam—seam produced when a sewn seam is covered with a strip of compatible material. The strip is attached by heat-sealing as with film laminated materials.
<b>Color</b>	Tan

**Logistical Parameters**

<b>Ease of Use</b>	Some instruction required
<b>Consumables</b>	Not applicable
<b>Maintenance Requirements</b>	Suits should be stored in a cool dry area away from direct sunlight
<b>Shelf Life</b>	Under proper storage conditions, there is no evidence to indicate that the System CPF <sup>®</sup> film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of “aged” and new Responder <sup>®</sup> fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to “training use only” be considered when they no longer pass the visual inspection and/or pressure test.
<b>Transportability</b>	Not applicable
<b>Operational Limitations</b>	There are uses and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified government and industry standards. CAUTION: Do not use for fire protection. Avoid open flame or intense heat.

**Environmental Conditions**

Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, “Test Methods for Coated Fabrics,” using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in POC with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, “Standard Test Method for Coated Fabrics—Low Temperature Bend Test.” This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.

**Unit Cost**

POC customer service for pricing

**Maintenance Cost**

Product is designed for limited use

**Warranty**

It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.

**Don/Doff Information**

See instruction manual for instructions on donning and doffing

**Use/Reuse**

See instruction manual for suggestions on decontamination

**Launderability**

See instruction manual for suggestions on decontamination

**Accessories**

Additional accessories that may be purchased include chemtape, kooljacket, Tingley HAZMAT boots, and decon shower

**Special Requirements**

**Training Requirements**

Some instruction required

<b>Training Available</b>	Training video, Suit Smart CD
<b>Manuals Available</b>	Not applicable
<b>Surveillance Testing Requirements</b>	Visual Inspections upon receipt from manufacturer, after each use and/or annually, and before each use
<b>Support Equipment</b>	Appropriate respiratory equipment
<b>Testing Information</b>	See permeation guides
<b>Applicable Regulations</b>	OSHA 1910.132 and OSHA 1910.120
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Not applicable



**General**

**Name**  
**ID# 57**

***Kappler CPF 3 Total Encapsulating Level B Suit***



**Technology**

Multi-layer barrier film laminated to a durable 2.0 oz polypropylene substrate. Greater physical strength and chemical hold-out protection when compared to other film products. Provides protection in rigorous activities and where there is potential for chemical splash.

**Stock Number**

3T571

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, totally encapsulating expanded back suit, rear zipper with storm flap, PVC visor, two covered exhaust port openings, and sock boots with boot flaps

**Availability**

In stock

**Current User(s)**

Emergency HAZMAT teams, fire departments, and law enforcement

**Manufacturer**

Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kappler.com

**Manufacturer Type**

Domestic

**Developer**

Kappler Protective Apparel and Fabrics  
70 Grimes Drive  
Gunterville, Alabama 35976

**Source**

www.kappler.com

**Certification**

OSHA 1910.132 and OSHA 1910.120

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

HD, GB, GD, and VX

**Biological Warfare (BW)  
Agents Protected Against**

Not applicable

**Toxic Industrial Materials (TIMs) Protected Against**

POC Kappler for permeation guides

**Duration of Protection**

POC Kappler for permeation guides

**Recommended Use(s)**

Emergency HAZMAT teams, chemical handling, chemical warfare protection, hazardous wastes, and materials cleanups

**Physical Parameters**

**Sizes Available**

S–XL, 2X, and 3X

**Weight**

Average packaging weight is 6 lb

**Package Size and Volume**

Not specified

**Power Requirements**

Not applicable

**Material Type**

Multi-layer barrier film laminated to a durable 2.0 oz polypropylene substrate. Greater physical strength and chemical hold-out protection when compared to other film products. Provides protection in rigorous activities and where there is potential for chemical splash.

**Construction Type**

Taped seam—seam produced when a sewn seam is covered with a strip of compatible material. The strip is attached by heat-sealing as with film laminated materials.

**Color**

Tan

**Logistical Parameters**

**Ease of Use**

Some instruction required

**Consumables**

Not applicable

**Maintenance Requirements**

Suits should be stored in a cool dry area away from direct sunlight

**Shelf Life**

Under proper storage conditions, there is no evidence to indicate that the System CPF<sup>®</sup> film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of “aged” and new Responder<sup>®</sup> fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to “training use only” be considered when they no longer pass the visual inspection and/or pressure test.

**Transportability**

Not applicable

**Operational Limitations**

There are uses and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified government and industry standards. CAUTION: Do not use for fire protection. Avoid open flame or intense heat.

**Environmental Conditions**

Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, “Test Methods for Coated Fabrics,” using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in POC with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, “Standard Test Method for Coated Fabrics—Low Temperature Bend Test.” This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.

**Unit Cost**

Contact customer service for pricing

**Maintenance Cost**

Product is designed for limited use

**Warranty**

It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.

**Don/Doff Information**

See instruction manual for instructions on donning and doffing

**Use/Reuse**

See instruction manual for suggestions on decontamination

**Launderability**

See instruction manual for suggestions on decontamination

**Accessories**

Additional accessories that may be purchased include chemtape, kooljacket, Tingley HAZMAT boots, and decon shower

**Special Requirements**

**Training Requirements**

Some instruction required

**Training Available**

Training video, Suit Smart CD

<b>Manuals Available</b>	Not applicable
<b>Surveillance Testing Requirements</b>	Visual Inspections upon receipt from manufacturer, after each use and/or annually, and before each use
<b>Support Equipment</b>	Appropriate respiratory equipment
<b>Testing Information</b>	See permeation guides
<b>Applicable Regulations</b>	OSHA 1910.132 and OSHA 1910.120
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Not applicable

**General**

**Name**  
**ID# 58**

***Kappler Responder® Total Encapsulating Level B Suit***



**Technology** Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material

**Stock Number** 41370 (front entry)

**Protection Type** Level B, Percutaneous (liquid protective)

**Equipment Category** Level B, total encapsulating (liquid protective) suit, flat back, exhaust valves, with PVC face shield

**Availability** In stock

**Current User(s)** Fire departments, HAZMAT response teams, and law enforcement

**Manufacturer** Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kappler.com

**Manufacturer Type** Domestic

**Developer** Kappler Protective Apparel and Fabrics  
70 Grimes Drive  
Guntersville, AL 35976

**Source** www.kappler.com

**Certification** OSHA 1910.132 and OSHA 1910.120

**Operational Parameters**

**Chemical Warfare (CW) Agents Protected Against** HD, GB, GD, L, and VX

**Biological Warfare (BW) Agents Protected Against** Not applicable

**Toxic Industrial Materials (TIMs) Protected Against** Contact Kappler for permeation guides

**Duration of Protection** Contact Kappler for permeation guides

**Recommended Use(s)** Emergency HAZMAT teams, chemical handling, chemical warfare protection and when protection is needed against potential flash fire and/or NFPA certified garments are required

**Physical Parameters**

**Sizes Available** S, M, L, XL, 2X, and 3X

**Weight** One per case

**Package Size and Volume** Not specified

**Power Requirements** Not applicable

**Material Type** Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material

**Construction Type** Taped seam—seam produced when a sewn seam is covered with a strip of compatible material. The strip is attached by heat-sealing as with film laminated materials.

**Color** Blue

**Logistical Parameters**

**Ease of Use** Some instruction required

**Consumables** Not applicable

**Maintenance Requirements** Suits should be stored in a cool dry area away from direct sunlight. Level A garments should have a visual test and be pressure tested according to the ASTM F1052 Air Pressure Test Method upon arrival from manufacture, annually and/or after each use, and a quick re-inspection before each use.

**Shelf Life** Under proper storage conditions, there is no evidence to indicate that the System CPF<sup>®</sup> film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of “aged” and new Responder<sup>®</sup> fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to “training use only” be considered when they no longer pass the visual inspection and/or pressure test.

**Transportability** Not applicable

**Operational Limitations** There are uses and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified government and industry standards. CAUTION: Do not use for fire protection. Avoid open flame or intense heat.

<b>Environmental Conditions</b>	Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, “Test Methods for Coated Fabrics,” using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in POC with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, “Standard Test Method for Coated Fabrics—Low Temperature Bend Test.” This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.
<b>Unit Cost</b>	POC customer service for pricing
<b>Maintenance Cost</b>	Product is designed for limited use
<b>Warranty</b>	It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.
<b>Don/Doff Information</b>	See Level B instruction manual for instructions on donning and doffing
<b>Use/Reuse</b>	See Level B instruction manual for suggestions on decontamination
<b>Laundryability</b>	See Level B instruction manual for suggestions on decontamination
<b>Accessories</b>	Additional accessories that may be purchased include chemtape, kooljacket, Tingley HAZMAT boot, and decon shower
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Some instruction required

<b>Training Available</b>	Level B instruction manual, training video, and Suit Smart CD
<b>Manuals Available</b>	Level B instruction manual
<b>Surveillance Testing Requirements</b>	Visual inspection and in the case of Level A garments, pressure testing according to ASTM F1052 upon receipt from manufacturer, after each use and/or annually, and before reuse
<b>Support Equipment</b>	Appropriate respiratory equipment
<b>Testing Information</b>	See permeation guides
<b>Applicable Regulations</b>	OSHA 1910.132 and OSHA 1910.120
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Not applicable



**General**

**Name**  
**ID# 59**

***Kappler CPF 4 Total Encapsulating Level B Suit***



**Technology**

Multi-film composite barrier film laminated to a high strength 2.3 oz polypropylene substrate

**Stock Number**

4T373

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, total encapsulating flat back, rear zipper with storm flap, PVC visor, covered exhaust port opening, attached overboots of suit material, elastic wrist (no gloves), side air inlet, and visor

**Availability**

In stock

**Current User(s)**

REC's Customers:  
EPA; Department of State Consequence Management and Diplomatic Security Division; State of NY; NYC Police; City of Mobile, AL; Dept of Justice Center for Domestic Preparedness; FBI; Wisconsin Office of Emergency Management; DOD; and Indiana Office of State Fire Marshall; Jefferson County, MO.

**Manufacturer**

Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kappler.com

**Manufacturer Type**

Domestic

**Developer**

Kappler Protective Apparel and Fabrics  
70 Grimes Drive  
Gunterville, AL 35976

**Source**

www.kappler.com

**Certification**

OSHA 1910.132 and OSHA 1910.120

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

None

**Biological Warfare (BW)  
Agents Protected Against**

Not applicable

**Toxic Industrial Materials  
(TIMs) Protected Against**

Carbon disulfide, sulfuric acid, ammonia, chlorine, hydrogen chloride, and ethylene oxide

**Duration of Protection**

>480 min

**Recommended Use(s)**

Kappler recommends that CPF 4 be used in chemical applications where the risk of coming in POC with chemical is high splash

**Physical Parameters**

**Sizes Available**

S through 3XL

**Weight**

22 lb/10 kg, 6 per case

**Package Size and Volume**

Not specified

**Power Requirements**

Not applicable

**Material Type**

Multi-layer barrier film laminated to a 2.3 oz polypropylene substrate

**Construction Type**

Strapped seams, elastic wrist, and zipper with double storm flap with Velcro closure

**Color**

Green

**Logistical Parameters**

**Ease of Use**

Some instruction required

**Consumables**

Not applicable

**Maintenance Requirements**

Suits should be stored in a cool dry area away from direct sunlight. Level A garments should have a visual test and be pressure tested according to the ASTM F1052 Air Pressure Test Method upon arrival from manufacture, annually and/or after each use, and a quick re-inspection before each use.

**Shelf Life**

Under proper storage conditions, there is no evidence to indicate that the System CPF<sup>®</sup> film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of “aged” and new Responder<sup>®</sup> fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to “training use only” be considered when they no longer pass the visual inspection and/or pressure test.

**Transportability**

Not applicable

**Operational Limitations**

Temperature service range: -85 °F to 200 °F

**Environmental Conditions**

Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, “Test Methods for Coated Fabrics,” using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in POC with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, “Standard Test Method for Coated Fabrics—Low Temperature Bend Test.” This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.

**Unit Cost**

POC customer service for pricing

**Maintenance Cost**

Product is designed for limited use

**Warranty**

It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.

**Don/Doff Information**

See instruction manual for instructions on donning and doffing

**Use/Reuse**

It is completely up to the discretion of the person wearing the suit. Kappler considers CPF 4 a limited use suit and reuse is based on both an evaluation of the physical state of the garment and also the level and type of chemical exposure.

**Launderability**

See instruction manual for instructions on donning and doffing

**Accessories**

Additional accessories that may be purchased include chemtape, kooljacket, Tingley HAZMAT boot, and decon shower

**Special Requirements**

**Training Requirements**

Some instruction required

<b>Training Available</b>	Training video available
<b>Manuals Available</b>	Instruction manual available
<b>Surveillance Testing Requirements</b>	Visual inspections upon receipt from manufacturer, after each use, and before the next use
<b>Support Equipment</b>	Appropriate respiratory equipment
<b>Testing Information</b>	ASTM D751 Test Battery
<b>Applicable Regulations</b>	OSHA 1910.132 and OSHA 1910.120
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Not applicable

**General**

**Name**  
**ID# 60**

***Kappler CPF 4 Total Encapsulating Level B Suit***



**Technology**

Multi-film composite barrier film laminated to a high strength 2.3 oz polypropylene substrate

**Stock Number**

4T571

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, total encapsulating, rear zipper with double storm flap, expanded back, PVC visor, covered exhaust port opening, attached sock boot with boot storm flap (sock boots to be worn inside regular work boots), and side air inlet

**Availability**

In stock

**Current User(s)**

REC's Customers:  
EPA; Department of State Consequence Management and Diplomatic Security Division; State of NY; NYC Police; City of Mobile, AL; Department of Justice Center for Domestic Preparedness; FBI; Wisconsin Office of Emergency Management; DOD; and Indiana Office of State Fire Marshall; Jefferson County, MO.

**Manufacturer**

Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kappler.com

**Manufacturer Type**

Domestic

**Developer**

Kappler Protective Apparel and Fabrics  
70 Grimes Drive  
Gunterville, AL 35976

**Source**

www.kappler.com

**Certification**

OSHA 1910.132 and OSHA 1910.120

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

None

**Biological Warfare (BW)  
Agents Protected Against**

Not applicable

<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Carbon disulfide, sulfuric acid, ammonia, chlorine, hydrogen chloride, and ethylene oxide
<b>Duration of Protection</b>	>480 min
<b>Recommended Use(s)</b>	Kappler recommends that CPF 4 be used in chemical applications where the risk of coming in POC with chemical is high splash
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through 3XL
<b>Weight</b>	31 lb/10 kg, 6 per case
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Multi-layer barrier film laminated to a 2.3 oz polypropylene substrate
<b>Construction Type</b>	Strapped seams, elastic wrist, and zipper with double storm flap with Velcro closure
<b>Color</b>	Green
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Some instruction required
<b>Consumables</b>	Not applicable
<b>Maintenance Requirements</b>	Suits should be stored in a cool dry area away from direct sunlight. Level A garments should have a visual test and be pressure tested according to the ASTM F1052 Air Pressure Test Method upon arrival from manufacture, annually and/or after each use, and a quick re-inspection before each use.
<b>Shelf Life</b>	Under proper storage conditions, there is no evidence to indicate that the System CPF <sup>®</sup> film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of “aged” and new Responder <sup>®</sup> fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to “training use only” be considered when they no longer pass the visual inspection and/or pressure test.
<b>Transportability</b>	Not applicable
<b>Operational Limitations</b>	Temperature service range: -85 °F to 200 °F

<b>Environmental Conditions</b>	Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, “Test Methods for Coated Fabrics,” using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in POC with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, “Standard Test Method for Coated Fabrics—Low Temperature Bend Test.” This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.
<b>Unit Cost</b>	POC customer service for pricing
<b>Maintenance Cost</b>	Product is designed for limited use
<b>Warranty</b>	It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.
<b>Don/Doff Information</b>	See instruction manual for instructions on donning and doffing
<b>Use/Reuse</b>	It is completely up to the discretion of the person wearing the suit. Kappler considers CPF 4 a limited use suit and reuse is based on both an evaluation of the physical state of the garment and also the level and type of chemical exposure.
<b>Launderability</b>	See instruction manual for instructions on donning and doffing
<b>Accessories</b>	Additional accessories that may be purchased include chemtape, kooljacket, Tingley HAZMAT boot, and decon shower
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Some instruction required

<b>Training Available</b>	Training video available, Suit Smart CD
<b>Manuals Available</b>	Instruction manual available
<b>Surveillance Testing Requirements</b>	Visual inspections upon receipt from manufacturer, after each use, and before the next use
<b>Support Equipment</b>	Appropriate respiratory equipment
<b>Testing Information</b>	ASTM D751 Test Battery
<b>Applicable Regulations</b>	OSHA 1910.132 and OSHA 1910.120
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Not applicable



**General**

**Name**

***Kappler Responder® Total Encapsulating Level B Suit (Liquid Protective)***

**ID# 61**



**Technology**

Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material

**Stock Number**

41570 (front entry)  
41571 (rear entry)

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, fully encapsulating, liquid protective, and expanded back

**Availability**

In stock

**Current User(s)**

Fire departments, HAZMAT response teams, and law enforcement

**Manufacturer**

Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kapper.com

**Manufacturer Type**

Domestic

**Developer**

Kappler Protective Apparel and Fabrics  
70 Grimes Drive  
Gunterville, AL 35976

**Source**

www.kappler.com

**Certification**

None

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

HD, GB, GD, L, and VX

**Biological Warfare (BW)  
Agents Protected Against**

Not applicable

**Toxic Industrial Materials  
(TIMs) Protected Against**

Contact Kappler for permeation guides

**Duration of Protection**

Contact Kappler for permeation guides

**Recommended Use(s)**

Emergency HAZMAT teams, chemical handling, chemical warfare protection and when protection is needed against potential flash fire and/or NFPA certified garments are required

**Physical Parameters****Sizes Available**

S, M, L, XL, 2X, and 3X

**Weight**

Average packaging weight is 9 lb

**Package Size and Volume**

Not specified

**Power Requirements**

Not applicable

**Material Type**

Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material

**Construction Type**

Taped seam—seam produced when a sewn seam is covered with a strip of compatible material. The strip is attached by heat-sealing as with film laminated materials.

**Color**

Blue

**Logistical Parameters****Ease of Use**

Some instruction required

**Consumables**

Not applicable

**Maintenance Requirements**

Suits should be stored in a cool dry area away from direct sunlight. Level A garments should have a visual test and be pressure tested according to the ASTM F1052 Air Pressure Test Method upon arrival from manufacture, annually and/or after each use, and a quick re-inspection before each use.

**Shelf Life**

Under proper storage conditions, there is no evidence to indicate that the System CPF<sup>®</sup> film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of “aged” and new Responder<sup>®</sup> fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to “training use only” be considered when they no longer pass the visual inspection and/or pressure test.

**Transportability**

Not applicable

**Operational Limitations**

There are uses and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified government and industry standards.

**Environmental Conditions**

Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, “Test Methods for Coated Fabrics,” using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in contact with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, “Standard Test Method for Coated Fabrics—Low Temperature Bend Test.” This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flex in a 60 ° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.

**Unit Cost**

Contact customer service for pricing

**Maintenance Cost**

Product is designed for limited use

**Warranty**

It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling which results from conditions beyond the control of the manufacturer.

**Don/Doff Information**

See Level B instruction manual for instructions on donning and doffing

**Use/Reuse**

See Level B instruction manual for suggestions on decontamination

**Launderability**

See Level B instruction manual for suggestions on decontamination

**Accessories**

Additional accessories that may be purchased include chemtape, kooljacket, Tingley HAZMAT boot, and decon shower

**Special Requirements**

**Training Requirements**

Some instruction required

**Training Available**

Level B instruction manual, training video, and Suit Smart CD

**Manuals Available**

Level B instruction manual

<b>Surveillance Testing Requirements</b>	Visual inspection and in the case of Level A garments, pressure testing according to ASTM F1052 upon receipt from manufacturer, after each use and/or annually, and before reuse
<b>Support Equipment</b>	Appropriate respiratory equipment
<b>Testing Information</b>	See permeation guides
<b>Applicable Regulations</b>	OSHA 1910.132 and OSHA 1910.120
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Not applicable

**General**

**Name**  
**ID# 62**

***Kappler Responder<sup>®</sup> CSM OSHA Level A***



**Technology**

Kappler/Grommet's Level A Responder CSM is a totally encapsulating suit with a large-view 40 mil PVC face shield with a 5 mil Teflon overlay, front entry, expanded back (to accommodate self-contained breathing apparatus (SCBA) and rebreathers), two exhaust valves, 48 in gas-tight PVC zipper, triple storm flap, attached sock boots with boot flap, replaceable MILSPEC butyl gloves, and double-sealed seams. Impermeable. A multi-layer extrusion laminated on one side to a polypropylene nonwoven substrate with another multi-layer film extrusion laminated to the opposite side. Material offers very little thermal protection to the user. Estimated temperature service range for material and seams: -85 °F to 200 °F.

**Stock Number**

42583 (Level A)

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, suit

**Availability**

June 1994—Initial entry into U.S. Army, DoD units, COE contractors, and Chemical Surety Labs

**Current User(s)**

U.S. Army Technical Escort Unit  
POC: Mr. Sheldon Orr  
410-436-8532 (Tel)  
Aberdeen Proving Ground, MD 21010-5423.  
1ST Ten RAID Teams and USMC CRIBF, MARCORSSYSCOM,  
POC: Adam Becker  
703-784-5898 (Tel)  
Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kappler.com

**Manufacturer**

**Manufacturer Type**

Domestic

**Developer**

GEOMET Technologies, Inc., and Kappler Safety Group

**Source**

www.kappler.com  
www.nbcprotect.com

<b>Certification</b>	Test data on the material (e.g., ASTM and TIMs) available from both the manufacturer and co-developer
<b><u>Operational Parameters</u></b>	
<b>Chemical Warfare (CW) Agents Protected Against</b>	All classical CW agents including HN1, HN2, and HN3
<b>Biological Warfare (BW) Agents Protected Against</b>	Deductive reasoning strongly supports the use of these garments to protect against BW agents in powder form. No aerosol testing has been performed.
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Material tested for permeation per ASTM F739 against 200 chemicals, liquids, and gases.
<b>Duration of Protection</b>	Varies depending upon the type of hazard
<b>Recommended Use(s)</b>	Not specified
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S, M, L, XL, 2XL, and 3XL. A size smaller than small (XS) can be manufactured for a minimum quantity of 12 units.
<b>Weight</b>	Level A—6 lb
<b>Package Size and Volume</b>	Level A—45.9 in <sup>3</sup> in shipping container (box)
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Impermeable. A multi-layer extrusion laminated on one side to a polypropylene nonwoven substrate with another multi-layer film extrusion laminated to the opposite side.
<b>Construction Type</b>	Sealed seams
<b>Color</b>	Tan outside. White inside. Tan seam tape inside and outside.
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Suit does not restrict mobility. Wearers can bend, twist, and turn without friction. The clothing is compatible with most SCBAs and with rebreathers, especially the Biomarine BioPak 240.
<b>Consumables</b>	Antifog is necessary to keep the face shield from fogging due to the wearer's warm exhalation
<b>Maintenance Requirements</b>	Visual inspection and pressure testing are required before and after use, of every six months when in storage
<b>Shelf Life</b>	Not specified
<b>Transportability</b>	Not applicable
<b>Operational Limitations</b>	Temperature service range: -85 °F to 200 °F
<b>Environmental Conditions</b>	Ambient weather conditions should have little affect on suit material. Estimated temperature service range for material and seams: -85 °F to 200 °F.

<b>Unit Cost</b>	Contact customer service for pricing
<b>Maintenance Cost</b>	Product is designed for limited use
<b>Warranty</b>	Standard warranty is for a period of 90 d; however, extended warranties are negotiable from purchases made by co-developer GEOMET Technologies, Inc.
<b>Don/Doff Information</b>	With instruction manual
<b>Use/Reuse</b>	The physical condition and whether the suit passes the pressure test must be determined before considering reuse
<b>Laundryability</b>	Decontamination procedures should be initiated and supervised by a qualified safety professional as quickly as possible on a suit that has been exposed to toxic chemical substances. Responder CSM suits are for limited-use and as such, are not designed for multiple washing and decontamination.
<b>Accessories</b>	35 mil butyl gloves, a Sanarex carrying bag for Level A, and a plastic, resealable storage bag for Level B coveralls
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	8 h
<b>Training Available</b>	Training video, Suit Smart CD
<b>Manuals Available</b>	One instruction manual is included with each suit shipped
<b>Surveillance Testing Requirements</b>	Visual inspection and pressure testing are required before and after use, of every 6 mo when in storage
<b>Support Equipment</b>	One pressure test kit and an external air source
<b>Testing Information</b>	Chemical agent testing pertaining to the preproduction fabric roll and post-production suit lot. Test data on the material (e.g., ASTM and TIMs) available from both the manufacturer and co-developer.
<b>Applicable Regulations</b>	None. However, each individual Government user has developed their own internal guidance regarding the storage and use of these garments.
<b>Health Hazards</b>	There is no potential health hazard associated with the possession, use, or storage of Responder CSM limited-use suits
<b>Communications Interface Capability</b>	Not specified
<b>EOD Compatibility</b>	Not specified

**General**

**Name**  
**ID# 63**

***Kappler Responder<sup>®</sup> CSM OSHA Level B***



**Technology**

Kappler/ GEOMET's Level B Responder CSM is a zipper-front coverall with an attached hood, jam fit glove system with MILSPEC butyl gloves, attached sock boots with splash guards, and double-sealed seams. The extended double storm flap works with the hood to accommodate a respirator. Impermeable. A multi-layer extrusion laminated on one side to a polypropylene nonwoven substrate with another multi-layer film extrusion laminated to the opposite side. Material offers very little thermal protection to the user. Estimated temperature service range for material and seams: -85 °F to 200 °F.

**Stock Number**

42489 (Level B)

**Protection Type**

Level B/C, Percutaneous

**Equipment Category**

Level B/C, suit

**Availability**

June 1994—Initial entry into U.S. Army, DoD units, COE contractors, and Chemical Surety Labs

**Current User(s)**

U.S. Army Technical Escort Unit  
POC: Mr. Sheldon Orr  
410-436-8532 (Tel)  
Aberdeen Proving Ground, MD 21010-5423.  
1ST Ten RAID Teams and USMC CRIBF, MARCORSSYSCOM  
POC: Adam Becker  
703-784-5898 (Tel)  
Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kappler.com

**Manufacturer**

Domestic  
GEOMET Technologies, Inc., and Kappler Safety Group

**Manufacturer Type**  
**Developer**

**Source**

www.kappler.com  
www.nbcprotect.com

**Certification**

Test data on the material (e.g., ASTM and TIMs) available from both the manufacturer and co-developer



### Operational Parameters

**Chemical Warfare (CW)  
Agents Protected Against**

All classical CW agents including HN1, HN2, and HN3

**Biological Warfare (BW)  
Agents Protected Against**

Deductive reasoning strongly supports the use of these garments to protect against BW agents in powder form. No aerosol testing has been performed.

**Toxic Industrial Materials  
(TIMs) Protected Against**

Material tested for permeation per ASTM F739 against 200 chemicals, liquids, and gases

**Duration of Protection**

Varies depending upon the type of hazard

**Recommended Use(s)**

Not specified

### Physical Parameters

**Sizes Available**

S, M, L, XL, 2XL, and 3XL. A size smaller than small (XS) can be manufactured for a minimum quantity of 12 units.

**Weight**

Level B—4 lb

**Package Size and Volume**

Level B—34.5 in<sup>3</sup> in shipping container (box)

**Power Requirements**

Not applicable

**Material Type**

A multi-layer extrusion laminated on one side to a polypropylene non-woven substrate with another multi-layer film extrusion laminated to the opposite side

**Construction Type**

Sealed seams

**Color**

Tan outside. White inside. Tan seam tape inside and outside.

### Logistical Parameters

**Ease of Use**

Suit does not restrict mobility. Wearers can bend, twist, and turn without friction. The clothing is compatible with most SCBAs and with rebreathers, especially the Biomarine BioPak 240.

**Consumables**

Antifog is necessary to keep the face shield from fogging due to the wearer's warm exhalation

**Maintenance Requirements**

Visual inspection and pressure testing are required before and after use, or every six months when in storage

**Shelf Life**

Not specified

**Transportability**

Not applicable

**Operational Limitations**

Temperature service range: -85 °F to 200 °F

<b>Environmental Conditions</b>	Ambient weather conditions should have little affect on suit material. Estimated temperature service range for material and seams: -85 °F to 200 °F.
<b>Unit Cost</b>	Contact customer service for pricing
<b>Maintenance Cost</b>	Product is designed for limited use
<b>Warranty</b>	Standard warranty is for a period of 90 d; however, extended warranties are negotiable from purchases made by co-developer GEOMET Technologies, Inc.
<b>Don/Doff Information</b>	With instruction manual
<b>Use/Reuse</b>	The physical condition and whether the suit passes the pressure test must be determined before considering reuse
<b>Launderability</b>	Decontamination procedures should be initiated and supervised by a qualified safety professional as quickly as possible on a suit that has been exposed to toxic chemical substances. Responder CSM suits are for limited-use and as such, are not designed for multiple washing and decontamination.
<b>Accessories</b>	35 mil butyl gloves, a Sanarex carrying bag for Level A, and a plastic, resealable storage bag for Level B coveralls
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	8 h
<b>Training Available</b>	Training video, Suit Smart CD
<b>Manuals Available</b>	One instruction manual is included with each suit shipped
<b>Surveillance Testing Requirements</b>	Visual inspection and pressure testing are required before and after use, or every 6 mo when in storage
<b>Support Equipment</b>	One pressure test kit and an external air source
<b>Testing Information</b>	Chemical agent testing pertaining to the preproduction fabric roll and post-production suit lot. Test data on the material (e.g., ASTM and TIMs) available from both the manufacturer and co-developer.
<b>Applicable Regulations</b>	None. However, each individual Government user has developed their own internal guidance regarding the storage and use of these garments.
<b>Health Hazards</b>	There is no potential health hazard associated with the possession, use, or storage of Responder CSM limited-use suits
<b>Communications Interface Capability</b>	Not specified
<b>EOD Compatibility</b>	Not specified

**General**

**Name**  
**ID# 64**

**Lakeland Tychem® 10000 NFPA Certified Level A Ensemble**



**Technology** Inner garment is selectively permeable, outer garment is aluminized and made for chemical flash fire protection

**Stock Number** 12645 (front entry)  
12655 (rear entry)

**Protection Type** Level A, Percutaneous, respiratory (gas-tight suit), and flash fire

**Equipment Category** Level A, ensemble, with aluminized fiberglass overcover

**Availability** 4 wk to 5 wk ARO

**Current User(s)** Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer** Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type** Domestic

**Developer** Lakeland Industries

**Source** [www.lakeland.com](http://www.lakeland.com)

**Certification** NFPA

**Operational Parameters**

**Chemical Warfare (CW) Agents Protected Against** Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW) Agents Protected Against** Protects against all biological toxins and pathogens

**Toxic Industrial Materials (TIMs) Protected Against** Excellent protection against a wide variety of TIMs

**Duration of Protection** Minimum of 8 h

<b>Recommended Use(s)</b>	Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through 5X
<b>Weight</b>	30 lb
<b>Package Size and Volume</b>	20 in L x 16 in W x 16 in H
<b>Power Requirements</b>	None
<b>Material Type</b>	Inner garment is selectively permeable, outer garment is aluminized and made for chemical flash fire protection
<b>Construction Type</b>	Seam sewn and the heat-sealed with tape
<b>Color</b>	Outer garment is silver and inner is lime-green
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Garment passed all NFPA requirements for mobility and flexibility
<b>Consumables</b>	None—gloves are replaceable if needed
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	After 5 yr, recommended to use only for training
<b>Transportability</b>	No support equipment required for transportation other than original bag included with suit
<b>Operational Limitations</b>	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
<b>Environmental Conditions</b>	Operational temperature range of Tychem 10000 material is -25 °F to 225 °F
<b>Unit Cost</b>	Not applicable—cost to be determined by distributors
<b>Maintenance Cost</b>	Not specified
<b>Warranty</b>	90 d
<b>Don/DoFF Information</b>	Not specified
<b>Use/Reuse</b>	Limited use
<b>Launderability</b>	Suits are not launderable
<b>Accessories</b>	3-layer glove system, a combination of Viton (middle), North Silvershield (inner), and Kevlar (outer), storage bag, and Bata HAZMAT boots included with each ensemble
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Not specified
<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available
<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears

<b>Support Equipment</b>	Level A pressure test kit
<b>Testing Information</b>	ASTM F1052
<b>Applicable Regulations</b>	NFPA 1991–2000 edition
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**  
**ID# 65**

***Lakeland Tychem® 10000 Level A Ensemble***



**Technology** Selectively permeable

**Stock Number** 11645 (front entry)  
11655 (rear entry)

**Protection Type** Level A, Percutaneous, and respiratory (gas-tight suit)

**Equipment Category** Level A, ensemble, with aluminized PBI/Kevlar overcover

**Availability** 4 wk to 5 wk ARO

**Current User(s)** Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer** Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type** Domestic

**Developer** Lakeland Industries

**Source** [www.lakeland.com](http://www.lakeland.com)

**Certification** NFPA 1991-2000 Edition, ASTM F1052

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against** Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against** Protects against all biological toxins and pathogens

**Toxic Industrial Materials (TIMs) Protected Against** Excellent protection against a wide variety of TIMs

**Duration of Protection** Minimum of 8 h

<b>Recommended Use(s)</b>	Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through 5X
<b>Weight</b>	30 lb
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	None
<b>Material Type</b>	Garment is selectively permeable
<b>Construction Type</b>	Seam sewn and the heat-sealed with tape
<b>Color</b>	Lime-green
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Not specified
<b>Consumables</b>	None—gloves are replaceable if needed
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	After 5 yr, recommended to use only for training
<b>Transportability</b>	No support equipment required for transportation other than original bag included with suit
<b>Operational Limitations</b>	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
<b>Environmental Conditions</b>	Operational temperature range of Tychem 10000 material is -25 °F to 225 °F
<b>Unit Cost</b>	Not applicable—cost to be determined by distributors
<b>Maintenance Cost</b>	Not applicable
<b>Warranty</b>	90 d
<b>Don/Doff Information</b>	Not specified
<b>Use/Reuse</b>	Limited use
<b>Launderability</b>	Suits are not launderable
<b>Accessories</b>	3-layer glove combination of Viton, North Silvershield, and outer Kevlar knit gloves, storage bag, and Bata HAZMAT boots
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Not specified
<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual is available, permeation guide is available
<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment Testing Information</b>	Level A pressure test kit ASTM F1052

<b>Applicable Regulations</b>	NFPA 1991–2000 edition
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes



**General**

**Name**  
**ID# 66**

***Lakeland Tychem® 10000 Economy Level A Encapsulated Suit***



**Technology**

Selectively permeable

**Stock Number**

10620 (front entry) Tychem® 10000  
10630 (rear entry) Tychem® 10000  
TK620 Tychem® TK  
TK630 Tychem® TK

**Protection Type**

Level A, Percutaneous, and respiratory

**Equipment Category**

Level A, fully encapsulating, and flat back

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)  
Domestic manufacturer

**Manufacturer Type**

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

OSHA Level A

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Protects against all biological toxins and pathogens

**Toxic Industrial Materials (TIMs) Protected Against**

Excellent protection against a wide variety of TIMs

**Duration of Protection**

Minimum of 8 h

<b>Recommended Use(s)</b>	Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through 5X
<b>Weight</b>	10 lb
<b>Package Size and Volume</b>	22 in L x 16 in W x 10.5 in H
<b>Power Requirements</b>	None
<b>Material Type</b>	Garment is selectively permeable
<b>Construction Type</b>	Seam sewn and the heat-sealed with tape
<b>Color</b>	Lime-green
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Garment poses no major mobility or flexibility problems from wearer compared to other Level A CPC
<b>Consumables</b>	None—gloves are replaceable if needed
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	After 5 yr, recommended to use only for training
<b>Transportability</b>	No support equipment required for transportation other than original bag included with suit
<b>Operational Limitations</b>	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
<b>Environmental Conditions</b>	Operational temperature range of Tychem 10000 material is -25 °F to 225 °F
<b>Unit Cost</b>	Not applicable—cost to be determined by distributors
<b>Maintenance Cost</b>	Not applicable
<b>Warranty</b>	90 d
<b>Don/DoFF Information</b>	Not specified
<b>Use/Reuse</b>	Limited use
<b>Launderability</b>	Suits are not launderable
<b>Accessories</b>	Butyl gloves, sock boots with boot flaps, and storage bag included
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Not specified
<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available
<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	Level A pressure test kit

<b>Testing Information</b>	ASTM F1052
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**  
**ID# 67**

***Lakeland Tychem® 10000 Economy Level A Encapsulated Suit***



**Technology**

Selectively permeable

**Stock Number**

10660 (front entry) Tychem® 10000  
10670 (rear entry) Tychem® 10000  
TK660 Tychem® TK  
TK670 Tychem® TK

**Protection Type**

Level A, Percutaneous, and respiratory

**Equipment Category**

Level A, fully encapsulating

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic manufacturer

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

OSHA Level A

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Protects against all biological toxins and pathogens

**Toxic Industrial Materials  
(TIMs) Protected Against**

Excellent protection against a wide variety of TIMs

<b>Duration of Protection</b>	Minimum of 8 h
<b>Recommended Use(s)</b>	Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through 5X
<b>Weight</b>	10 lb
<b>Package Size and Volume</b>	22 in L x 16 in W x 10.5 in H
<b>Power Requirements</b>	None
<b>Material Type</b>	Garment is selectively permeable
<b>Construction Type</b>	Seam sewn and the heat-sealed with tape
<b>Color</b>	Lime-green
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Garment poses no major mobility or flexibility problems from wearer compared to other Level A CPC
<b>Consumables</b>	None—gloves are replaceable if needed
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	After 5 yr, recommended to use only for training
<b>Transportability</b>	No support equipment required for transportation other than original bag included with suit
<b>Operational Limitations</b>	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
<b>Environmental Conditions</b>	Operational temperature range of Tychem 10000 material is -25 °F to 225 °F
<b>Unit Cost</b>	Not applicable—cost to be determined by distributors
<b>Maintenance Cost</b>	Not applicable
<b>Warranty</b>	90 d
<b>Don/Doff Information</b>	Not specified
<b>Use/Reuse</b>	Limited use
<b>Launderability</b>	Suits are not launderable
<b>Accessories</b>	Butyl gloves, sock boots with boot flaps, and storage bag included
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Not specified
<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available
<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	Level A pressure test kit

<b>Testing Information</b>	ASTM F1052
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**  
**ID# 68**

**Lakeland Tychem® 10000 Level A Suit**



**Technology**

Selectively permeable

**Stock Number**

10640 (front entry) Tychem® 10000  
10650 (rear entry) Tychem® 10000  
TK640 Tychem® TK  
TK650 Tychem® TK

**Protection Type**

Level A, Percutaneous, and respiratory (gas-tight suit)

**Equipment Category**

Level A, encapsulated, and gas-tight suit deluxe

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

OSHA Level A

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Protects against all biological toxins and pathogens

**Toxic Industrial Materials (TIMs) Protected Against**

Excellent protection against a wide variety of TIMs

**Duration of Protection**

Minimum of 8 h

<b>Recommended Use(s)</b>	Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through 5X
<b>Weight</b>	10 lb
<b>Package Size and Volume</b>	22 in L x 16 in W x 10.5 in H
<b>Power Requirements</b>	None
<b>Material Type</b>	Garment is selectively permeable
<b>Construction Type</b>	Seam sewn and the heat-sealed with tape
<b>Color</b>	Lime-green
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Garment poses no major mobility or flexibility problems from wearer compared to other Level A CPC
<b>Consumables</b>	None—gloves are replaceable if needed
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	After 5 yr, recommended to use only for training
<b>Transportability</b>	No support equipment required for transportation other than original bag included with suit
<b>Operational Limitations</b>	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
<b>Environmental Conditions</b>	Operational temperature range of Tychem 10000 material is -25 °F to 225 °F
<b>Unit Cost</b>	Not applicable—cost to be determined by distributors
<b>Maintenance Cost</b>	Not applicable
<b>Warranty</b>	90 d
<b>Don/DoFF Information</b>	Not specified
<b>Use/Reuse</b>	Limited use
<b>Launderability</b>	Suits are not launderable
<b>Accessories</b>	3-layer glove system (butyl inner, silvershield middle, Kevlar outer), and storage bag included
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	None
<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available
<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	Level A pressure test kit



<b>Testing Information</b>	ASTM F1052
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**  
**ID# 69**

***Lakeland Tychem® 9400 Level B Encapsulated Suit***



**Technology**

Selectively permeable

**Stock Number**

94450 (rear entry) Tychem® 9400  
BR450 Tychem® BR

**Protection Type**

Level B, Percutaneous, and respiratory

**Equipment Category**

Level B, encapsulated suit, expanded back, 48" zipper, double storm flap with Velcro, and sock boots with boot flaps

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L)

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials  
(TIMs) Protected Against**

A broad range of TIMs. Contact Lakeland for further information.

<b>Duration of Protection</b>	Breakthrough time at minimum of 8 h, except Ammonia at 45 min, Dichloromethane at 391 min, and Methanol at 150 min
<b>Recommended Use(s)</b>	Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through 5X
<b>Weight</b>	13 lb per case and three in a case
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	None
<b>Material Type</b>	Garment is selectively permeable
<b>Construction Type</b>	Seam sewn and the heat-sealed with tape
<b>Color</b>	School bus yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Garment poses no major mobility or flexibility problems from wearer compared to other Level B CPC
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	After 5 yr, recommended to use only for training
<b>Transportability</b>	No support equipment required for transportation
<b>Operational Limitations</b>	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
<b>Environmental Conditions</b>	Designed to be worn in common outdoor conditions
<b>Unit Cost</b>	Not applicable—cost to be determined by distributors
<b>Maintenance Cost</b>	Not applicable
<b>Warranty</b>	90 d
<b>Don/Doff Information</b>	Not specified
<b>Use/Reuse</b>	Limited use
<b>Launderability</b>	Suits are not launderable
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	None
<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available

<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

*Lakeland Tychem® 9400 Level B Encapsulated Suit*

**ID# 70**



**Technology**

Selectively permeable

**Stock Number**

94400 (rear entry) Tychem® 9400  
BR400 Tychem® BR

**Protection Type**

Level B, Percutaneous, and respiratory

**Equipment Category**

Level B, encapsulated suit, flat back, 48" zipper, storm flap, and sock boots with boot flaps

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L)

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials  
(TIMs) Protected Against**

A broad range of TIMs. Contact Lakeland for further information.

**Duration of Protection** Breakthrough time at minimum of 8 h, except Ammonia at 45 min, Dichloromethane at 391 min, and Methanol at 150 min

**Recommended Use(s)** Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments

**Physical Parameters**

**Sizes Available** S through 5X

**Weight** 13 lb per case and three in a case

**Package Size and Volume** Not specified

**Power Requirements** None

**Material Type** Garment is selectively permeable

**Construction Type** Seam sewn and the heat-sealed with tape

**Color** School bus yellow

**Logistical Parameters**

**Ease of Use** Garment poses no major mobility or flexibility problems from wearer compared to other Level B CPC

**Consumables** None

**Maintenance Requirements** Not specified

**Shelf Life** After 5 yr, recommended to use only for training

**Transportability** No support equipment required for transportation

**Operational Limitations** Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.

**Environmental Conditions** Designed to be worn in common outdoor conditions

**Unit Cost** Not applicable—cost to be determined by distributors

**Maintenance Cost** Not applicable

**Warranty** 90 d

**Don/Doff Information** Not specified

**Use/Reuse** Limited use

**Launderability** Suits are not launderable

**Accessories** None

**Special Requirements**

**Training Requirements** None

<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available
<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

*Lakeland Tychem® SL Level B Encapsulated Suit*

**ID# 71**



**Technology**

Selectively permeable

**Stock Number**

72400 (rear entry)

**Protection Type**

Level B, Percutaneous, and respiratory

**Equipment Category**

Level B, encapsulated suit, flat back, 48" zipper, storm flap, elastic wrists, and sock boots with boot flaps

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L).  
Questions call Lakeland Customer Service at 800-645-9291.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials  
(TIMs) Protected Against**

A broad range of liquid chemicals. Questions call Lakeland Customer Service at 800-645-9291.



**Duration of Protection**

Fabric test data: Average breakthrough time  
VX: Greater than 12 h at 10 g/m<sup>2</sup>  
GB, and L: Greater than 6 h at 10 g/m<sup>2</sup>  
D: Greater than 3 h at 10 g/m<sup>2</sup>  
Questions call Lakeland Customer Service at 800-645-9291

**Recommended Use(s)**

Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments

**Physical Parameters****Sizes Available**

S through 5X

**Weight**

7 lb per case and three in a case

**Package Size and Volume**

Not specified

**Power Requirements**

None

**Material Type**

Garment is selectively permeable

**Construction Type**

Seam sewn and the heat-sealed with tape

**Color**

White

**Logistical Parameters****Ease of Use**

Garment poses no major mobility of flexibility problems from wearer compared to other Level B CPC

**Consumables**

None

**Maintenance Requirements**

Not specified

**Shelf Life**

After 5 yr, recommended to use only for training

**Transportability**

No support equipment required for transportation

**Operational Limitations**

Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.

**Environmental Conditions**

Designed to be worn in common outdoor conditions

**Unit Cost**

Not applicable—cost to be determined by distributors

**Maintenance Cost**

Not applicable

**Warranty**

90 d

**Don/DoFF Information**

Not specified

**Use/Reuse**

Limited use

**Laundryability**

Suits are not launderable

**Accessories**

None

**Special Requirements**

<b>Training Requirements</b>	Not specified
<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available
<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

*Lakeland Tychem<sup>®</sup> 10000 Level B Encapsulated Suit*

**ID# 72**



**Technology**

Selectively permeable

**Stock Number**

10440 (front entry) Tychem<sup>®</sup> 10000  
10450 (rear entry) Tychem<sup>®</sup> 10000  
TK440 Tychem<sup>®</sup> TK  
TK450 Tychem<sup>®</sup> TK

**Protection Type**

Level B, Percutaneous, and respiratory

**Equipment Category**

Level B, encapsulated suit

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

GA, GB, GD, HD, L, and VX

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

<b>Toxic Industrial Materials (TIMs) Protected Against</b>	A broad range of TIMs. Contact Lakeland for further information.
<b>Duration of Protection</b>	Breakthrough time at minimum of 8 h, except Ammonia at 45 min, Dichloromethane at 391 min, and Methanol at 150 min
<b>Recommended Use(s)</b>	Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through 5X
<b>Weight</b>	15 lb
<b>Package Size and Volume</b>	22 in L x 16 in W x 10.5 in H
<b>Power Requirements</b>	None
<b>Material Type</b>	Garment is selectively permeable
<b>Construction Type</b>	Seam sewn and the heat-sealed with tape
<b>Color</b>	Lime-green
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Garment poses no major mobility of flexibility problems from wearer compared to other Level B CPC
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	After 5 yr, recommended to use only for training
<b>Transportability</b>	No support equipment required for transportation
<b>Operational Limitations</b>	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
<b>Environmental Conditions</b>	Operational temperature range of Tychem 10000 material is -25 °F to 225 °F
<b>Unit Cost</b>	Not applicable—cost to be determined by distributors
<b>Maintenance Cost</b>	Not applicable
<b>Warranty</b>	90 d
<b>Don/Doff Information</b>	Not specified
<b>Use/Reuse</b>	Limited use
<b>Launderability</b>	Suits are not launderable
<b>Accessories</b>	None

**Special Requirements**

<b>Training Requirements</b>	None
<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available
<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name** *Lakeland Tychem® 10000 Level B Coverall (Fully Encapsulated)*

**ID# 73**



**Technology** Selectively permeable

**Stock Number** 10400 Tychem® 10000  
TK400 Tychem® TK

**Protection Type** Level B, Percutaneous, and respiratory

**Equipment Category** Level B, coverall (fully encapsulated flat back suit, PVC visor, 48" rear entry zipper with storm flap, and sock boot and boot flaps)

**Availability** 4 wk to 5 wk ARO

**Current User(s)** Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer** Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type** Domestic

**Developer** Lakeland Industries

**Source** [www.lakeland.com](http://www.lakeland.com)

**Certification** Not applicable

**Operational Parameters**

**Chemical Warfare (CW) Agents Protected Against** Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW) Agents Protected Against** Protects against all biological toxins and pathogens

**Toxic Industrial Materials (TIMs) Protected Against** Excellent protection against a wide variety of TIMs

<b>Duration of Protection</b>	Minimum of 8 h
<b>Recommended Use(s)</b>	Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments

**Physical Parameters**

<b>Sizes Available</b>	S through 5X
<b>Weight</b>	9 lb per case and three in a case
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	None
<b>Material Type</b>	Garment is selectively permeable
<b>Construction Type</b>	Seam sewn and the heat-sealed with tape
<b>Color</b>	Lime-green

**Logistical Parameters**

<b>Ease of Use</b>	Garment poses no major mobility or flexibility problems from wearer compared to other Level B CPC
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	After 5 yr, recommended to use only for training
<b>Transportability</b>	No support equipment required for transportation
<b>Operational Limitations</b>	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
<b>Environmental Conditions</b>	Operational temperature range of Tychem 10000 material is -25 °F to 225 °F
<b>Unit Cost</b>	Not applicable—cost to be determined by distributors
<b>Maintenance Cost</b>	Not applicable
<b>Warranty</b>	90 d
<b>Don/Doff Information</b>	Not specified
<b>Use/Reuse</b>	Limited use
<b>Launderability</b>	Suits are not launderable
<b>Accessories</b>	None

**Special Requirements**

<b>Training Requirements</b>	Not specified
<b>Training Available</b>	Available through regional sales representation

<b>Manuals Available</b>	User manual and permeation guide available
<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes



**General**

**Name**

*C-Cover S-89 One Piece NBC Protective Overgarment*

**ID# 74**



**Technology**

Thermoplastic film technology (advanced, co-extruded, multi-layer, thermoplastic films are converted into several different, patented disposable garment designs by special heat sealing technique). Body cover—50  $\mu$  thin, transparent polyethylene (PE) film. The PE has a polyamide (PA) barrier. Foot covers—made from nonwoven polypropylene (PP) fiber fabric reinforcements.

**Stock Number**

NATO Stock No: 8415 25 138 3938

**Protection Type**

Skin protection from Military NBC warfare agents

**Equipment Category**

Transparent body cover and foot covers with mask opening; disposable

**Availability**

Full production  
Delivery: 60 d to 90 d after order

**Current User(s)**

NATO military Use—Sweden, Norway, and USA

**Manufacturer**

New Pac Safety AB  
P.O. Box 174  
S-566 23 Habo  
Sweden  
+46-36-411-39 (Tel)  
+46-36-410-31 (Fax)  
E-mail: info@newpac.se

**Manufacturer Type**

Foreign

**Developer**

New Pac Safety AB

**Source**

Sales: INDEF Services Intl.  
14847 Lee Highway  
Amissville, VA 20106-0089  
540-937-7327 (Tel)  
540-937-7328 (Fax)  
indefsteve@msn.com

**Certification**

Meets NATO Military Standards for NBC Ensemble  
Swedish Defense Lab Certification  
Battelle Labs—Test GD and HD (July 27, 1990)

### Operational Parameters

<b>Chemical Warfare (CW) Agents Protected Against</b>	All Military CW agents
<b>Biological Warfare (BW) Agents Protected Against</b>	All Military BW agents
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Detects a variety of TIMs
<b>Duration of Protection</b>	All garments equipped with PA barriers provide protection against all known CW agents for more than 24 h. Minimum 12 h against NATO standard challenge.
<b>Recommended Use(s)</b>	Tactical operations, CBW response teams, medical response teams, and decontamination teams : Designed for temporary and short term use by support personnel and to protect general population.

### Physical Parameters

<b>Sizes Available</b>	One size fits all
<b>Weight</b>	1.1 lb
<b>Package Size and Volume</b>	Can be tightly rolled for compact storage
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Body cover—50 $\mu$ thin, transparent polyethylene (PE) film. The PE has a polyamide (PA) barrier. Foot covers—made from nonwoven polypropylene (PP) fiber fabric reinforcements capable of withstanding at least 5 km of rough ground.
<b>Construction Type</b>	Reinforced sealed
<b>Color</b>	Transparent

### Logistical Parameters

<b>Ease of Use</b>	Protection provided within less than 10 s of unexpected CW attack
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	None—Suit is disposable
<b>Shelf Life</b>	10 yr
<b>Transportability</b>	Not specified
<b>Operational Limitations</b>	Not for use where exposure to open flame is possible. Concern of heat stress to wearer in high temperature/high humidity conditions.
<b>Environmental Conditions</b>	-30 °F to +140 °F. Maintains protection if wet.
<b>Unit Cost</b>	\$60/complete ensemble
<b>Maintenance Cost</b>	None—disposable

<b>Warranty</b>	Replacement if manufacturing flaw found upon initial use within 12 mo of purchase
<b>Don/Doff Information</b>	Less than 10 s. Ensemble is worn over clothing. Boot covers worn over boots. Can don without assistance.
<b>Use/Reuse</b>	24 h use minimum. Disposable after use.
<b>Launderability</b>	Disposable after use
<b>Accessories</b>	Not specified
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Not specified
<b>Training Available</b>	None required
<b>Manuals Available</b>	None required, video available
<b>Surveillance Testing Requirements</b>	Not specified
<b>Support Equipment</b>	Not specified
<b>Testing Information</b>	Meets NATO Standard Test Requirement for CB Ensemble
<b>Applicable Regulations</b>	Not specified
<b>Health Hazards</b>	Not specified
<b>Communications Interface Capability</b>	Not specified
<b>EOD Compatibility</b>	Yes

## General

**Name**

*C-Cover S/89N Body Cover*

**ID # 75**

Picture Not Available

**Technology**

Thermoplastic film technology (advanced, co-extruded, multi-layer, thermoplastic films are converted into several different, patented disposable garment designs by special heat sealing technique). Body cover—50  $\mu$  thin, transparent polyethylene (PE) film. The PE has a polyamide (PA) barrier. Foot covers—made from nonwoven polypropylene (PP) fiber fabric reinforcements.

**Stock Number**

Not specified

**Protection Type**

Percutaneous

**Equipment Category**

Transparent body cover and foot covers. Similar to S/89 but has no mask opening and is shortened to allow breathing air to be pumped in from underneath up to the respirator.

**Availability**

Not specified

**Current User(s)**

Military and civilian use

**Manufacturer**

New Pac Safety AB  
P.O. Box 174  
S-566 23 Habo  
Sweden  
+46-36-411-39 (Tel)  
+46-36-410-31 (Fax)  
E-mail: info@newpac.se

**Manufacturer Type**

Foreign

**Developer**

New Pac Safety AB

**Source**

Sales: INDEF Services Intl.  
14847 Lee Highway  
Amissville, VA 20106-0089  
540-937-7327 (Tel)  
540-937-7328 (Fax)  
indefsteve@msn.com

**Certification**

Not specified

## Operational Parameters

**Chemical Warfare (CW)  
Agents Protected Against**

NBC

**Biological Warfare (BW)  
Agents Protected Against**

NBC

<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Not specified
<b>Duration of Protection</b>	All garments equipped with PA barriers provide protection against all known CW agents for more than 24 h
<b>Recommended Use(s)</b>	Impermeable protective garments for military and civilian use

**Physical Parameters**

<b>Sizes Available</b>	Not applicable
<b>Weight</b>	Lightweight
<b>Package Size and Volume</b>	Can be tightly rolled for compact storage
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Body cover—50 $\mu$ thin, transparent polyethylene (PE) film. The PE has a polyamide (PA) barrier. Foot covers-made from nonwoven polypropylene (PP) fiber fabric reinforcements capable of withstanding at least 5 km of rough ground.
<b>Construction Type</b>	Not specified
<b>Color</b>	Transparent

**Logistical Parameters**

<b>Ease of Use</b>	Protection provided within less than 10 s of unexpected CW attack
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	Not specified
<b>Transportability</b>	Not applicable
<b>Operational Limitations</b>	Not specified
<b>Environmental Conditions</b>	Not specified
<b>Unit Cost</b>	Not specified
<b>Maintenance Cost</b>	Not specified
<b>Warranty</b>	Not specified
<b>Don/Doff Information</b>	Less than 10 s
<b>Use/Reuse</b>	Disposable
<b>Launderability</b>	Not specified
<b>Accessories</b>	Not specified

**Special Requirements**

<b>Training Requirements</b>	Not specified
<b>Training Available</b>	Not specified
<b>Manuals Available</b>	Not specified
<b>Surveillance Testing Requirements</b>	Not specified
<b>Support Equipment</b>	Not specified
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	Not specified
<b>Health Hazards</b>	Not specified
<b>Communications Interface Capability</b>	Not specified
<b>EOD Compatibility</b>	Not specified

## General

**Name**

*C-Cover Dress S-97 NBC Protective Overgarment*

**ID # 76**



**Technology**

Resistant barrier material known as EVAL, ISO standard for ethylene vinyl alcohol (EVOH). Thermoplastic film technology (advanced, co-extruded, multi-layer, thermoplastic films are converted into several different, patented disposable garment designs by special heat sealing technique). Trousers have integrated PP-reinforced foot covers and the C-Cover Dress has a PA barrier. The PE has a polyamide (PA) barrier.

**Stock Number**

NATO # 4230-17-110-0048

**Protection Type**

Skin protection from Military NBC warfare agents

**Equipment Category**

Two-piece suit with integrated hood, integrated reinforced foot covers, disposable

**Availability**

Full production. Delivery: 60 d to 90 d after order.

**Current User(s)**

NATO military use—Sweden, Denmark, Finland, Switzerland, Hungary, USA

**Manufacturer**

New Pac Safety AB  
P.O. Box 174  
S-566 23 Habo  
Sweden  
+46-36-411-39 (Tel)  
+46-36-410-31 (Fax)  
E-mail: info@newpac.se

**Manufacturer Type**

Private, Foreign

**Developer**

New Pac Safety, Sweden

**Source**

Sales: INDEF Services Intl  
14847 Lee Highway  
Amissville, VA 20106-0089  
540-937-7327 (Tel)  
540-937-7328 (Fax)  
indefsteve@msn.com

**Certification**

Meets NATO Military Standards for NBC Ensemble  
Swedish Defense Lab Certification

## Operational Parameters

<b>Chemical Warfare (CW) Agents Protected Against</b>	All Military CW agents
<b>Biological Warfare (BW) Agents Protected Against</b>	All Military BW agents
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Most hazardous chemicals
<b>Duration of Protection</b>	All garments equipped with PA barriers provide protection against all known CW agents for more than 24 h. Minimum 12 h against NATO standard challenge.
<b>Recommended Use(s)</b>	Tactical operations, CBW response teams, medical response teams, and decontamination teams : Designed for temporary and short term use by support personnel and to protect general population.

**Physical Parameters**

<b>Sizes Available</b>	L and XL
<b>Weight</b>	2 ¾ lb
<b>Package Size and Volume</b>	11 in x 9.5 in x 3 in; 0.18 in cuff
<b>Power Requirements</b>	None
<b>Material Type</b>	Trousers have integrated PP-reinforced foot covers and the C-Cover Dress has a PA barrier. The PE has a polyamide (PA) barrier.
<b>Construction Type</b>	Jacket has an integrated hood with flexible ring ensuring snug fit around mask. The design has been carefully chosen for full scale, high production and guarantees best seal strength. Sleeves are sealed to the jacket with one common sleeve opening. The design of the trousers allows for two pairs to be sealed at a time. New Pac Safety AB owns patent rights. Special heat sealing technique.
<b>Color</b>	Forest green and military green

**Logistical Parameters**

<b>Ease of Use</b>	Simple don—no training required
<b>Consumables</b>	None—suit is disposable
<b>Maintenance Requirements</b>	None
<b>Shelf Life</b>	10 yr
<b>Transportability</b>	Not applicable
<b>Operational Limitations</b>	Not for use where exposure to open flame is possible. Concern of heat stress to wearer in high temperature/high humidity conditions.
<b>Environmental Conditions</b>	-30 °F to +140 °F. Maintains protection if wet.
<b>Unit Cost</b>	\$110/complete ensemble
<b>Maintenance Cost</b>	None



<b>Warranty</b>	Replacement if manufacturing flaw found upon initial use within 12 mo of purchase
<b>Don/Doff Information</b>	Ensemble is worn over clothing. Boot covers worn over boots and gloves over hands. Can don without assistance.
<b>Use/Reuse</b>	24 h use minimum. Disposable after use.
<b>Launderability</b>	No
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	None
<b>Training Available</b>	None required
<b>Manuals Available</b>	None Required
<b>Surveillance Testing Requirements</b>	None
<b>Support Equipment</b>	None
<b>Testing Information</b>	Meets NATO Standard Test Requirement for CB Ensemble
<b>Applicable Regulations</b>	Not applicable
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Yes

**General**

**Name**

*Saratoga HAMMER Suit*

**ID # 77**



**Technology**

Permeable Saratoga carbon sphere sorptive technology. Two layer fabric system with shell of 100 % cotton and Saratoga permeable liner of activated carbon spheres on polyester jersey. Not FR (custom FR design available).

**Stock Number**

TS CO-1195C (2-piece suit)

**Protection Type**

Percutaneous

**Equipment Category**

Chemical protective overgarment, duty uniform

**Availability**

Fielded in 1998. Currently in production.

**Current User(s)**

U.S. Secret Service  
Technical Security Division  
1800 G Street NW  
Washington, DC 20223  
POC: Mr. David Cohen  
202-395-9272

**Manufacturer**

Tex-Shield, Inc.  
5206 Morrowick Rd  
Charlotte, NC 28226  
POC: Nona Fahl  
704-341-3681 (Tel)  
704-72341-3468 (Fax)

**Manufacturer Type**

International

**Developer**

U.S. Secret Service  
Technical Security Division  
1800 G Street NW  
Washington, DC 20223  
POC: Mr. David Cohen  
202-395-9272

**Source**

Tex-Shield, Inc.

**Certification**

Provides protection from chemical warfare agents per MIL-C-29462. Tex-Shield is sole source for all material used in Saratoga HAMMER Suit.

### Operational Parameters

<b>Chemical Warfare (CW) Agents Protected Against</b>	All classes of chemical warfare agents when used as directed with chemical warfare protective mask, gloves, and overboots or socks
<b>Biological Warfare (BW) Agents Protected Against</b>	Protects against biological warfare agents when used as directed with appropriate mask, gloves, and overboots or socks
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Not tested
<b>Duration of Protection</b>	Meets the requirements for protection from CW agents for up to six launderings, 45 d wear, 120 calendar days after removal from factory sealed bag or 24 h after contamination
<b>Recommended Use(s)</b>	Tactical, crisis management, all law enforcement, and first responders

### Physical Parameters

<b>Sizes Available</b>	S/X-short, S/short, M/short, M/regular, M/long, L/regular, and L/long
<b>Weight</b>	Varies by size. Nominal weight < 5 lb suit.
<b>Package Size and Volume</b>	Coat and trouser packaged separately. Nominal 10 in x 6 in x 3 in vacuum sealed package size for each piece.
<b>Power Requirements</b>	None
<b>Material Type</b>	Two layer fabric system with shell of 100 % cotton and Saratoga permeable liner of activated carbon spheres on polyester jersey. Not fire resistant (FR) (custom FR design available).
<b>Construction Type</b>	Seam sealing not required in Saratoga garments
<b>Color</b>	Navy blue. Other colors may be available by custom order.

### Logistical Parameters

<b>Ease of Use</b>	Lightweight, comfortable with integral hood compatible with most masks. Low thermal burden and level of protection allow for extended wear time. Easy donning.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	General suit inspection. Standard laundering. Record wear use and laundering.
<b>Shelf Life</b>	10 yr
<b>Transportability</b>	Vacuum sealed, compact package
<b>Operational Limitations</b>	Durable. Long wear life. Passes chemical protection requirements after 24-h/45-d field test.
<b>Environmental Conditions</b>	No environmental usage limitations. Not effected by rain, fog, snow or salt water.
<b>Unit Cost</b>	\$250 per system

<b>Maintenance Cost</b>	None
<b>Warranty</b>	Free of material and workmanship defects for 1 yr
<b>Don/Doff Information</b>	Assistance is not required. Assistance in checking mask/hood interface is recommended.
<b>Use/Reuse</b>	Reusable and launderable. Dispose of contaminated suits in a safe and approved manner.
<b>Launderability</b>	Suit is launderable six times for hygienic purposes. Standard home laundering.
<b>Accessories</b>	Polyethylene storage bag. Instruction manual. Suit may be purchased as package with Saratoga gloves and socks.

**Special Requirements**

<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Training video available from manufacturer
<b>Manuals Available</b>	Instruction manual
<b>Surveillance Testing Requirements</b>	No testing required. Inspection for tears and damage required.
<b>Support Equipment</b>	Chemical warfare protective mask, gloves, and socks or overboots
<b>Testing Information</b>	Independent test data/certificate of compliance is available upon request
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD equipment in CB environment

**General**

**Name**

*Saratoga Joint Service Lightweight Integrated Suit (JSLIST)*

**ID # 78**



**Technology**

Permeable Saratoga carbon sphere sorptive technology. Two layer approach. The inner filter layer is composed of carbon spherical absorbers laminated between PBI/Aramid material (lightweight polyester material). The outer layer is composed of a cotton ripstop material treated for durability and liquid resistance.

**Stock Number**

8415-01-444-XXXX depending on size and color

**Protection Type**

Percutaneous

**Equipment Category**

Overgarment (OG), a universal, lightweight, two-piece, front-opening garment that can be worn as an overgarment or as a primary uniform over personal underwear

**Availability**

Fielded April 1997. Currently in production.

**Current User(s)**

Department of Defense—Joint Services  
Marine Corps System Command  
Quantico, VA 22134  
POC: Mr. Doug Bryce  
703-784-6675

**Manufacturer**

Tex-Shield, Inc.  
5206 Morrowick Rd  
Charlotte, NC 28226  
POC: Nona Fahl  
704-341-3681 (Tel)  
704-341-3468 (Fax)

**Manufacturer Type**

Domestic and Foreign

**Developer**

Department of Defense—Joint Services  
Marine Corps System Command  
Quantico, VA 22134  
Mr. Doug Bryce  
703-784-6675 (Tel)

**Source**

Tex-Shield, Inc.

**Certification**

Department of Defense certification. Tex-shield is sole source for material for JSLIST overgarment. DoD certified material per PD97-04.

### Operational Parameters

**Chemical Warfare (CW)  
Agents Protected Against**

All classes of chemical warfare agents when used as directed with chemical warfare protective mask, gloves, and overboots or socks

**Biological Warfare (BW)  
Agents Protected Against**

Protects against biological warfare agents when used as directed with appropriate mask, gloves, and overboots or socks

**Toxic Industrial Materials  
(TIMs) Protected Against**

Not tested

**Duration of Protection**

Qualified by the DoD to meet the requirements for protection from chemical warfare agents for up to six launderings, 45 d wear, 120 calendar days after removal from factory sealed bag or 24 h after contamination

**Recommended Use(s)**

Tactical, crisis management, all law enforcement, and first responders

### Physical Parameters

**Sizes Available**

S/X-short, S/short, M/short, M/regular, M/long, L/regular, and L/long

**Weight**

Varies by size. Nominal weight < 5 lb suit

**Package Size and Volume**

Coat and trouser packaged separately. Nominal 10 in x 6 in x 3 in vacuum sealed package size for each piece.

**Power Requirements**

None

**Material Type**

Two layer fabric system with shell of 50/50 nylon/cotton. Carbon spherical absorbers located between PBI/Aramid material. Not FR.

**Construction Type**

Seam sealing not required in Saratoga garments

**Color**

Woodland or desert camouflage

### Logistical Parameters

**Ease of Use**

Universal lightweight, two piece, front-opening garment can be worn as an overgarment or as a primary uniform over personal underwear. It has integral hood, bellows-type sockets, high-waist trousers, adjustable suspenders, adjustable waistband, and waist length jacket. Low thermal burden-less bulk; lightweight. Design improves system acceptance and maximizes compatibility and user individual equipment compatibility.

**Consumables**

None

**Maintenance Requirements**

General suit inspection. Standard laundering. Record wear use and laundering.

**Shelf Life**

10 yr

**Transportability**

Vacuum sealed, compact package

**Operational Limitations**

Durable overgarment. Long wear life. Passes chemical protection requirements after 24 h to 45 d field test. Low thermal burden and level of protection allow for extended wear time.

<b>Environmental Conditions</b>	No environmental usage limitations. Not effected by rain, fog, snow or salt water.
<b>Unit Cost</b>	\$250 per suit
<b>Maintenance Cost</b>	None
<b>Warranty</b>	Free of material and workmanship defects for 1 yr
<b>Don/Doff Information</b>	Assistance is not required. Assistance in checking mask/hood interface is recommended. Suspenders, drawstring cords, and Velcro closures for easy donning.
<b>Use/Reuse</b>	Reusable and launderable. Dispose of contaminated suits in a safe and approved manner.
<b>Launderability</b>	Suit is launderable six times for hygienic purposes. Standard home laundering.
<b>Accessories</b>	Polyethylene storage bag. Instruction manual. Suit may be purchased as package with Saratoga gloves and socks.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	DoD JSLIST training video available from manufacturer
<b>Manuals Available</b>	Instruction manual
<b>Surveillance Testing Requirements</b>	No testing required. Inspection for tears and damage required.
<b>Support Equipment</b>	Chemical warfare protective mask, gloves, and socks or overboots
<b>Testing Information</b>	Only DoD certified material per PD 97-04. Independent test data/certification of compliance is available upon request.
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD equipment in CB environment

**General**

**Name**

***Trelchem<sup>®</sup> High Performance Suit (HPS) Level A***

**ID # 79**



**Technology**

Trelchem<sup>®</sup> is the trade name of a range of chemical protective suits. Red Viton<sup>®</sup>/butyl rubber coated fabric on the outside and polymer barrier laminate on the inside. Gas and liquid tight fabric construction.

**Stock Number**

M: 477400177  
L: 477400178  
XL: 477400179  
XXL: 477400180

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, chemical protective suit

**Availability**

Stocked item, off the shelf at the manufacturers U.S. distribution point

**Current User(s)**

Used by, e.g., fire and rescue services/HAZMAT teams, chemical industry, and the U.S. Army Chem Demil

**Manufacturer**

Trelleborg Industries  
Ystad Sweden  
Local Distribution:  
call 800-344-4458 for nearest location

**Manufacturer Type**

Foreign

**Developer**

Trelleborg Industries  
Ystad Sweden

**Source**

Trelleborg Viking, Inc.  
170 West Road, Suite 1  
Portsmouth, NH 03801  
603-436-1236 (Tel)  
800-344-4458 (Tel)  
603-436-1392 (Fax)

**Certification**

NFPA 1991/2000 (USA), EN943 (European)

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Strong and durable, offers more than 8 h protection from a wide range of different chemicals including chemical warfare agents



**Biological Warfare (BW)  
Agents Protected Against**

All suits are vapor and liquid tight

**Toxic Industrial Materials  
(TIMs) Protected Against**

Material is protective against the 21 chemicals listed in ASTM F1001 and numerous other TIMs and 450 additional chemicals and gases. Carbon disulfide, chlorine, ethylene oxide, hydrogen chloride, sodium hydroxide, and sulfuric acid.

**Duration of Protection**

1 h to 8 h depending on the chemical or CW agent

**Recommended Use(s)**

All Level A, in Zone 1 and 2

**Physical Parameters**

**Sizes Available**

S, M, L, XL, and XXL

**Weight**

Approx. 17 lb

**Package Size and Volume**

30.5 in L x 23 in W x 8.5 in H

**Power Requirements**

Compressed air source for testing suits

**Material Type**

Viton<sup>®</sup>/butyl rubber coated fabric on outside and polymer barrier laminate on inside. Visor made of high impact 2 mm PVC. Inner gloves are made of multi-layer silver polymer laminate. Outer gloves made of chloroprene runner. Kevlar gloves (for mechanical protection) are worn over other gloves. Footwear—integrated booties in primary material. HAZMAT safety boots worn over booties.

**Construction Type**

Sewn and heat sealed; aramid thread

**Color**

Orange-Red

**Logistical Parameters**

**Ease of Use**

Designed by a tailor for comfort and fit

**Consumables**

Gloves

**Maintenance Requirements**

Pressure test every 6 mo, zipper lubrication, and cool storage

**Shelf Life**

10 yr

**Transportability**

Stored on board HAZMAT trucks, fire trucks and HAZMAT trailers

**Operational Limitations**

Duration of air source

**Environmental Conditions**

All. Suit ventilation systems available. Operational temperature range is -33 °F to 149 °F.

**Unit Cost**

\$4.5K

**Maintenance Cost**

Minimal testing time, cleaning time, patching as needed, glove replacement

**Warranty**

10 yr shelf life with 5 yr manufacturer defect warranty, with five free annual pressure test and inspections

<b>Don/Doff Information</b>	2 min 10 s for doffing
<b>Use/Reuse</b>	Reusable
<b>Launderability</b>	Yes, mild soap and water with brush or cloth; let air-dry. If stained, use white spirit followed with a rinse of lukewarm water and mild detergent, followed by a clear water rinse.
<b>Accessories</b>	Suit bags, hangers, gloves, test kits, repair kits, CDROM, and suit manual
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Donning and doffing, maintenance, testing, and repair
<b>Training Available</b>	CDROM trainer and on site factory reps
<b>Manuals Available</b>	CDROM and hard copy suit manual
<b>Surveillance Testing Requirements</b>	Inspect upon delivery, after each use and/or repair, or at least every 6 mo
<b>Support Equipment</b>	Test kits, repair kit, and compressed air equipment
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	ASTM F739 and NFPA 1991/2000
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Yes, suits are used by various military units

## General

**Name**

*Trellechem<sup>®</sup> TLU (Limited Use) Level A*

**ID # 80**



**Technology**

Trellechem<sup>®</sup> is the trade name of a range of chemical protective suits. Made with a polyamide fabric coated with barrier film lamination, the outside and inside layers offering protection against exposure to a wide range of chemicals. Gas and liquid tight fabric construction (limited use).

**Stock Number**

M: 475751001  
L: 475751002  
XL: 475751003  
XXL: 47575004

**Protection Type**

Level A, Percutaneous, and limited use

**Equipment Category**

Level A, chemical protective suit

**Availability**

Stocked item, off the shelf at the manufacturers U.S. distribution point

**Current User(s)**

Used by, e.g., fire and rescue services/HAZMAT teams, chemical industry, and the U.S. Army

**Manufacturer**

Trelleborg Industries  
Ystad Sweden  
Local Distribution:  
Call 800-344-4458 for nearest location

**Manufacturer Type**

Foreign

**Developer**

Trelleborg Industries  
Ystad Sweden

**Source**

Trelleborg Viking, Inc.  
170 West Road, Suite 1  
Portsmouth, NH 03801  
603-436-1236 (Tel)  
800-344-4458 (Tel)  
603-436-1392 (Fax)

**Certification**

NFPA 1991/2000 (USA), EN943 (European)

## Operational Parameters

**Chemical Warfare (CW)  
Agents Protected Against**

Strong and durable, offers more than 8 h protection from a wide range of different chemicals including chemical warfare agents

<b>Biological Warfare (BW) Agents Protected Against</b>	All suits are vapor and liquid tight
<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Carbon disulfide, chlorine, ethylene oxide, hydrogen chloride, sodium hydroxide, and sulfuric acid
<b>Duration of Protection</b>	1 h to 8 h depending on the chemical or CW agent
<b>Recommended Use(s)</b>	All Level A, in Zone 1 and 2

**Physical Parameters**

<b>Sizes Available</b>	S, M, L, XL, and XXL
<b>Weight</b>	Approx. 13 lb
<b>Package Size and Volume</b>	30.5 in L x 23 in W x 8.5 in H
<b>Power Requirements</b>	Compressed air source for testing suits
<b>Material Type</b>	Barrier film laminate on inside and outside, over fabric substrate. Inner gloves are made of multi-layer silver polymer laminate. Outer gloves made of chloroprene rubber. Kevlar gloves (for mechanical protection) are worn over other gloves. Footwear—integrated booties in primary material. HAZMAT safety boots worn over booties.
<b>Construction Type</b>	Sewn and heat sealed; aramid thread
<b>Color</b>	White

**Logistical Parameters**

<b>Ease of Use</b>	Designed by a tailor for comfort and fit
<b>Consumables</b>	Gloves
<b>Maintenance Requirements</b>	Pressure test every 6 mo, zipper lubrication, and cool storage
<b>Shelf Life</b>	5 yr
<b>Transportability</b>	Stored on board HAZMAT trucks, fire trucks and HAZMAT trailers
<b>Operational Limitations</b>	Duration of air source
<b>Environmental Conditions</b>	All, suit ventilation systems available. Operational temperature range is -33 °F to 149 °F.
<b>Unit Cost</b>	\$650—standard \$1.35K with NFPA certified overcover
<b>Maintenance Cost</b>	Minimal testing time, cleaning time, patching as needed, and glove replacement
<b>Warranty</b>	1 y
<b>Don/Doff Information</b>	2 min 10 s for doffing
<b>Use/Reuse</b>	Limited use one time exposure

<b>Laundryability</b>	Yes, mild soap and water with brush or cloth; let air-dry. If stained, use white spirit followed with a rinse of lukewarm water and mild detergent, followed by a clear water rinse.
<b>Accessories</b>	Suit bags, hangers, gloves, test kits, repair kits, CDROM, and suit manual
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Donning and doffing, maintenance, testing, and repair
<b>Training Available</b>	CDROM trainer and on site factory reps
<b>Manuals Available</b>	CDROM and hard copy suit manual
<b>Surveillance Testing Requirements</b>	Inspect upon delivery, after each use and/or repair, or at least every 6 mo
<b>Support Equipment</b>	Test kits, repair kit, and compressed air equipment
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	ASTM F739 and NFPA 1991/2000
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Yes, suits are used by various military units

## General

**Name**

*Trelchem<sup>®</sup> Vapor Barrier Suit (VPI) Level A*

**ID # 81**



**Technology**

Trelchem<sup>®</sup> is the trade name of a range of chemical protective suits. Yellow chloroprene rubber coated fabric on outside and polymer barrier laminate on inside. Gas and liquid tight fabric construction.

**Stock Number**

M: 476400199  
L: 476400200  
XL: 476400201  
XXL: 476400202

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, chemical protective suit

**Availability**

Stocked item, off the shelf at the manufacturers U.S. distribution point

**Current User(s)**

Used by, for example, fire and rescue services/HAZMAT teams, and chemical industry

**Manufacturer**

Trelleborg Industries  
Ystad Sweden  
Local Distribution:  
Call 800-344-4458 for nearest location  
Foreign

**Manufacturer Type**

**Developer**

Trelleborg Industries  
Ystad Sweden

**Source**

Trelleborg Viking, Inc.  
170 West Road, Suite 1  
Portsmouth, NH 03801  
603-436-1236 (Tel)  
800-344-4458 (Tel)  
603-436-1392 (Fax)

**Certification**

NFPA 1991/2000 (USA), EN943 (European)

## Operational Parameters

**Chemical Warfare (CW)  
Agents Protected Against**

Strong and durable, offers more than 8 h protection from a wide range of different chemicals including chemical warfare agents

**Biological Warfare (BW)  
Agents Protected Against**

All suits are vapor and liquid tight

<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Material is protective against the 21 chemicals listed in ASTM F1001 and numerous other TIMs and 450 additional chemicals and gases. Carbon disulfide, chlorine, ethylene oxide, hydrogen chloride, sodium hydroxide, and sulfuric acid.
<b>Duration of Protection</b>	1 h to 8 h depending on the chemical or CW agent
<b>Recommended Use(s)</b>	All Level A, in Zone 1 and 2
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S, M, L, XL, and XXL
<b>Weight</b>	Approx. 15 lb
<b>Package Size and Volume</b>	30.5 in L x 23 in W x 8.5 in H
<b>Power Requirements</b>	Compressed air source for testing suits
<b>Material Type</b>	Chloroprene with fabric substrate barrier film on the inside. Inner gloves are made of multi-layer silver polymer laminate. Outer gloves made of chloroprene rubber. Kevlar gloves (for mechanical protection) are worn over other gloves. Footwear—integrated booties in primary material. HAZMAT safety boots worn over booties.
<b>Construction Type</b>	Sewn and heat sealed; aramid thread
<b>Color</b>	Yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Designed by a tailor for comfort and fit
<b>Consumables</b>	Gloves
<b>Maintenance Requirements</b>	Pressure test every 6 mo, zipper lubrication, and cool storage
<b>Shelf Life</b>	5 yr
<b>Transportability</b>	Stored on board HAZMAT trucks, fire trucks, and HAZMAT trailers
<b>Operational Limitations</b>	Duration of air source
<b>Environmental Conditions</b>	All, suit ventilation systems available. Operational temperature range is -33 °F to 149 °F.
<b>Unit Cost</b>	\$1.99K
<b>Maintenance Cost</b>	Minimal testing time, cleaning time, patching as needed, and glove replacement
<b>Warranty</b>	10 yr shelf life with 5 yr manufacturer defect warranty, free annual pressure test, and inspection for 3 yr
<b>Don/Doff Information</b>	2 min 10 s for doffing
<b>Use/Reuse</b>	Reusable

<b>Launderability</b>	Yes, mild soap and water with brush or cloth; let air-dry. If stained, use white spirit followed with a rinse of lukewarm water and mild detergent, followed by a clear water rinse.
<b>Accessories</b>	Suit bags, hangers, gloves, test kits, repair kits, CDROM, and suit manual
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Donning and doffing, maintenance, testing and repair
<b>Training Available</b>	CDROM trainer and on site factory reps
<b>Manuals Available</b>	CDROM and hard copy suit manual
<b>Surveillance Testing Requirements</b>	Inspect upon delivery, after each use and/or repair, or at least every 6 mo
<b>Support Equipment</b>	Test kits, repair kit, and compressed air equipment
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	ASTM F739 and NFPA 1991/2000
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Yes, suits are used by various military units



**General**

**Name**

***Trellechem<sup>®</sup> Vapor Barrier Suit (VPS) Level A***

**ID # 82**



**Technology**

Trellechem<sup>®</sup> is the trade name of a range of chemical protective suits. Yellow chloroprene rubber coated fabric on outside and polymer barrier laminate on inside. Gas and liquid tight fabric construction.

**Stock Number**

M: 476400199  
L: 476400200  
XL: 476400201  
XXL: 476400202

**Protection Type**

Level A, Percutaneous

**Equipment Category**

Level A, chemical protective suit

**Availability**

Stocked item, off the shelf at the manufacturers U.S. distribution point

**Current User(s)**

Used by, e.g., fire and rescue services/HAZMAT teams, and chemical industry

**Manufacturer**

Trelleborg Industries  
Ystad Sweden  
Local Distribution:  
Call 800-344-4458 for nearest location

**Manufacturer Type**

Foreign

**Developer**

Trelleborg Industries  
Ystad Sweden

**Source**

Trelleborg Viking, Inc.  
170 West Road, Suite 1  
Portsmouth, NH 03801  
603-436-1236 (Tel)  
800-344-4458 (Tel)  
603-436-1392 (Fax)

**Certification**

NFPA 1991/2000 (USA), EN943 (European)

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Strong and durable, offers more than 8 h protection from a wide range of different chemicals including chemical warfare agents

**Biological Warfare (BW)  
Agents Protected Against**

All suits are vapor and liquid tight

**Toxic Industrial Materials (TIMs) Protected Against**

Material is protective against the 21 chemicals listed in ASTM F1001 and numerous other TIMs and 450 additional chemicals and gases. Carbon disulfide, chlorine, ethylene oxide, hydrogen chloride, sodium hydroxide, and sulfuric acid.

**Duration of Protection**

1 h to 8 h depending on the chemical or CW agent

**Recommended Use(s)**

All Level A, in Zone 1 and 2

**Physical Parameters****Sizes Available**

S, M, L, XL, and XXL

**Weight**

Approximately 15 lb

**Package Size and Volume**

30.5 in L x 23 in W x 8.5 in H

**Power Requirements**

Compressed air source for testing suits

**Material Type**

Chloroprene with fabric substrate barrier film on the inside. Inner gloves are made of multi-layer silver polymer laminate. Outer gloves made of chloroprene rubber. Kevlar gloves (for mechanical protection) are worn over other gloves. Footwear—integrated booties in primary material. HAZMAT safety boots worn over booties.

**Construction Type**

Sewn and heat sealed; aramid thread

**Color**

Yellow

**Logistical Parameters****Ease of Use**

Designed by a tailor for comfort and fit

**Consumables**

Gloves

**Maintenance Requirements**

Pressure test every 6 mo, zipper lubrication, and cool storage

**Shelf Life**

5 yr

**Transportability**

Stored on board HAZMAT trucks, fire trucks, and HAZMAT trailers

**Operational Limitations**

Duration of air source

**Environmental Conditions**

All, suit ventilation systems available. Operational temperature range is -33 °F to 149 °F.

**Unit Cost**

\$3.2K

**Maintenance Cost**

Minimal testing time, cleaning time, patching as needed, and glove replacement

**Warranty**

10 yr shelf life with 5 yr manufacturer defect warranty

**Don/Doff Information**

2 min 10 s for doffing

**Use/Reuse**

Reusable

<b>Launderability</b>	Yes, mild soap and water with brush or cloth; let air-dry. If stained, use white spirit followed with a rinse of lukewarm water and mild detergent, followed by a clear water rinse.
<b>Accessories</b>	Suit bags, hangers, gloves, test kits, repair kits, CDROM, and suit manual
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Donning and doffing, maintenance, testing, and repair
<b>Training Available</b>	CDROM trainer and on site factory reps
<b>Manuals Available</b>	CDROM and hard copy suit manual
<b>Surveillance Testing Requirements</b>	Inspect upon delivery, after each use and/or repair, or at least every 6 mo
<b>Support Equipment</b>	Test kits, repair kit, and compressed air equipment
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	ASTM F739 and NFPA 1991/2000
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Yes, suits are used by various military units

**General**

**Name**

*Disposable Toxicological Agent Protective Suit (DTAPS)/Level C1*

**ID # 83**



**Technology**

Level C (Field) Suit—DuPont Barricade, an impermeable nonwoven multi-laminate material

**Stock Number**

GEOMET P/N 38279 (for field use)

**Protection Type**

Level C, Percutaneous, and respiratory

**Equipment Category**

Level C1 toxicological agent protective suit, disposable (field use)

**Availability**

June 1, 2001

**Current User(s)**

Not applicable

**Manufacturer**

GEOMET Technologies, Inc.  
20251 Century Blvd., Suite 300  
Germantown, MD 20874  
POC: Jef Harris  
301-428-9898 (Tel)  
301-428-9482 (Fax)

**Manufacturer Type**

Domestic

**Developer**

GEOMET Technologies, Inc., Germantown, MD, under contract with the Office of Special Technology

**Source**

[www.nbcprotect.com](http://www.nbcprotect.com)

**Certification**

Projected to be certified under NFPA 1994

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Material swatches tested against GA, GB, GD, GF, t-HD, HN, L, and VX

**Biological Warfare (BW)  
Agents Protected Against**

Material is protective against bacteria, protozoans, rickettsia, toxins, and viruses. Biopenetration resistance testing in accordance with ASTM F 1671, Standard Test Method for Resistance of Materials Used in Protective Clothing to Penetration by Blood-Borne Pathogens Using Phi-X174 Bacteriophage Penetration as a Test System.

**Toxic Industrial Materials (TIMs) Protected Against**

Material is protective against the 21 chemicals listed in ASTM F 1001 and numerous other TIMs. For specific chemicals, refer to DuPont's Permeation Guide for Tychem Fabrics and the DuPont Tyvek Fax-on-Demand Data Service (800-558-9329).

<b>Duration of Protection</b>	Over 8 h for most chemicals
<b>Recommended Use(s)</b>	Military, Federal, State and local first responders to CB incidents in non-IDLH situations. The Level C1 ensemble is targeted for field use by users such as EMS, police, fire department, and forensic personnel.
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S, M, L, XL, XXL, and XXXL
<b>Weight</b>	Approximately 4 lb 8 oz for size small up to 5 lb for size XXXL
<b>Package Size and Volume</b>	From 20 in x 20 in x 6 in (1.39 ft <sup>3</sup> ) for size small to 25 in x 20 in x 8 in (to 2.31 ft <sup>3</sup> ) for size XXXL
<b>Power Requirements</b>	4 cfm PAPR blower requires lithium battery pack. Optional cooling system requires three size D alkaline batteries which will last up to 4 h.
<b>Material Type</b>	3 mil Tychem LV an impermeable nonwoven multi-laminant material
<b>Construction Type</b>	Sewn and seams heat sealed with overtape
<b>Color</b>	Olive drab green
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Level C1 DTAP suit features fully integrated sub-systems. Suit presents minimal restrictions on mobility and flexibility.
<b>Consumables</b>	4 cfm PAPR blower requires two filter canisters. Lithium battery pack can be stored for up to 10 yr. If using optional cooling system, three size D alkaline batteries and ice are consumable items.
<b>Maintenance Requirements</b>	None
<b>Shelf Life</b>	5 yr— store at room temperature
<b>Transportability</b>	Suit will be sealed in a plastic bag
<b>Operational Limitations</b>	Minimal. Operations can be extended with the optional cooling system to manage heat stress.
<b>Environmental Conditions</b>	The equipment is designed to operate under all common environmental conditions and climates
<b>Unit Cost</b>	\$122 to \$137 (suit); PAPR splash hood \$96; 4 cfm PAPR \$487 (includes face mask, hose, battery pack, mounting belt, and two filter canisters)
<b>Maintenance Cost</b>	None
<b>Warranty</b>	1 yr (parts and labor)
<b>Don/Doff Information</b>	“Buddy” required for donning. System can be doffed by the user.
<b>Use/Reuse</b>	Level C1 suit is disposable. However, if not contaminated during emergency operations, suit can be downgraded for use as a training suit. Suits must be disposed after any liquid or vapor chemical exposure. PAPR splash hood can be reused until torn or worn through.

<b>Laundryability</b>	Hand wash with mild detergent and biocide after each training use; suit can be laundered and reused as a training suit only
<b>Accessories</b>	16 mil butyl gloves, integral booties, 4 cfm blower, facemask, PAPR splash hood. Cooling system is available as an option.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	2 h for operation
<b>Training Available</b>	Yes
<b>Manuals Available</b>	Commercial operating manuals
<b>Surveillance Testing Requirements</b>	None
<b>Support Equipment</b>	Chemical protective boots. Cooling system is available as an option, which requires ice or a freezer to freeze ice bottles.
<b>Testing Information</b>	U.S. Army methyl salicylate (MeS) man-in-simulant test (MIST, TOP 10-2-022); passed ASTM Spray Test (ASTM F 1359-97); ASTM D 751 = 35 lbf; ASTM D 2582 = 7 lbf; ASTM D 747 = 0.50 in-lbf
<b>Applicable Regulations</b>	29 CFR 1910.120
<b>Health Hazards</b>	All materials are considered nonhazardous. MSDS on Tychem LV material available upon request. Contaminated suits should be treated as hazardous waste and must be disposed of in accordance with established procedures, regulations, and laws. Contaminated garments should be landfilled, but can be incinerated.
<b>Communications Interface Capability</b>	Facemask has integral speaking diaphragm
<b>EOD Compatibility</b>	Not to be used with fused munitions or in explosive or flammable atmospheres

**General**

**Name**

*Disposable Toxicological Agent Protective Suit (DTAPS)/Level C2*

**ID # 84**



**Technology**

Level C (Hospital) Suit— DuPont Tychem SL impermeable material.  
Level C Air Supplied Hood— DuPont Tychem SL impermeable material

**Stock Number**

GEOMET P/N 38280 (for hospital use)

**Protection Type**

Level C, Percutaneous, and respiratory

**Equipment Category**

Level C2 toxicological agent protective suit, disposable (for hospital use)

**Availability**

June 1, 2001

**Current User(s)**

Not applicable

**Manufacturer**

GEOMET Technologies, Inc.  
20251 Century Blvd., Suite 300  
Germantown, MD 20874  
POC: Jef Harris  
301-428-9898 (Tel)  
301-428-9482 (Fax)

**Manufacturer Type**

Domestic

**Developer**

GEOMET Technologies, Inc., Germantown, MD, under contract with the Office of Special Technology

**Source**

[www.nbcprotect.com](http://www.nbcprotect.com)

**Certification**

Projected to be certified under NFPA 1994

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Material swatches tested against GB, t-HD, L, and VX

**Biological Warfare (BW)  
Agents Protected Against**

Material is protective against bacteria, protozoans, rickettsia, toxins, and viruses. Biopenetration resistance testing in accordance with ASTM F 1671, Standard Test Method for Resistance of Materials Used in Protective Clothing to Penetration by Blood-Borne Pathogens Using Phi-X174 Bacteriophage Penetration as a Test System.

**Toxic Industrial Materials (TIMs) Protected Against**

For specific chemicals, refer to DuPont’s Permeation Guide for Tychem Fabrics and the DuPont Tyvek Fax-on-Demand Data Service at 800–558–9329

**Duration of Protection**

Over 8 h for many chemicals

**Recommended Use(s)**

The Level C2 DTAPS is designed primarily for indoor use for operations such as patient decontamination and medical treatment. The ensemble is targeted for use by doctors, nurses, and forensics personnel in a hospital-type setting.

**Physical Parameters**

**Sizes Available**

S, M, L, XL, XXL, and XXXL

**Weight**

Approximately 1 lb 9 oz for size small to 2 lb for size XXXL (suit only). 6 cfm PAPR, including hood, batteries, hose, and three canisters is 5 lb 11 oz.

**Package Size and Volume**

From 24 in x 16 in x 10 in (2.2 ft<sup>3</sup>) for size small to 29 in x 16 in x 10 in (to 2.7 ft<sup>3</sup>) for size XXXL (complete ensemble)

**Power Requirements**

6 cfm PAPR blower requires six size D alkaline batteries. Optional cooling system requires three size D alkaline batteries, which will last up to 4 h.

**Material Type**

Tychem SL, an impermeable nonwoven multi-laminant material

**Construction Type**

Sewn and seams heat sealed with overtape

**Color**

White

**Logistical Parameters**

**Ease of Use**

This suit features fully integrated sub-systems. Suit presents minimal restrictions on mobility and flexibility.

**Consumables**

6 cfm PAPR blower requires six size D alkaline batteries and three filter canisters. If using optional cooling system, three size D alkaline batteries and ice are consumable items.

**Maintenance Requirements**

None

**Shelf Life**

5 yr—store at room temperature

**Transportability**

Suit will be sealed in a plastic bag

**Operational Limitations**

Minimal. Operations can be extended with the optional cooling system to manage heat stress.

**Environmental Conditions**

The ensemble is designed to operate under all common indoor environmental conditions

**Unit Cost**

\$73 to \$81 (suit); overboots \$13.50; 6 cfm PAPR \$418 (includes air-supplied hood, hose, batteries, mounting belt, and three filter canisters)

**Maintenance Cost**

None

**Warranty**

1 yr (parts and labor)



<b>Don/Doff Information</b>	System can be donned and doffed by the user
<b>Use/Reuse</b>	Level C2 suit should be disposed after any use. Suits <b>MUST</b> be disposed after any liquid or vapor chemical exposure.
<b>Launderability</b>	Not launderable; suit should be disposed after use
<b>Accessories</b>	System comes with 16 mil butyl gloves, 6 cfm PAPR blower, air-supplied hood, and latex overboots
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	2 h for operation
<b>Training Available</b>	Yes
<b>Manuals Available</b>	Commercial operating manuals
<b>Surveillance Testing Requirements</b>	None
<b>Support Equipment</b>	Cooling system is available as an option, which requires ice or a freezer to freeze ice bottles
<b>Testing Information</b>	U.S. Army methyl salicylate (MeS) man-in-simulant test (MIST, TOP 10-2-022); passed ASTM Spray Test (ASTM F 1359-97); ASTM D 751 = 35 lbf; ASTM D 2582 = 7 lbf; ASTM D 747 = 0.50 lbf/in
<b>Applicable Regulations</b>	29 CFR 1910.120
<b>Health Hazards</b>	All materials are considered nonhazardous. MSDS on Tychem SL material available upon request. Contaminated suits should be treated as hazardous waste and must be decontaminated and disposed of in accordance with established procedures, regulations, and laws. Contaminated garments should be landfilled, but can be incinerated.
<b>Communications Interface Capability</b>	Level C2 DTAPS is compatible with various commercial radio systems, such as a boom microphone radio system
<b>EOD Compatibility</b>	Not to be used with fused munitions or in explosive or flammable atmospheres

**General**

**Name**

*Demilitarization Protective Ensembles (DPEs)*

**ID # 85**

Picture Not Available

**Technology**

Each suit contains an infrared communication window as well as backflow protection valve and high-visibility hood

**Stock Number**

Not specified

**Protection Type**

Percutaneous and respiratory

**Equipment Category**

Ensemble. Each suit contains an infrared communication window as well as backflow protection valve and high-visibility hood.

**Availability**

Not specified

**Current User(s)**

Not specified

**Manufacturer**

Vinyl Technology, Inc.  
200-T Railroad Ave  
Monrovia, CA 91016-4643  
626-443-5257 (Tel)  
626-443-0531 (Fax)

**Manufacturer Type**

Not specified

**Developer**

Rockwell International

**Source**

Internet: Vinyl Technology, Inc.

**Certification**

Not specified

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Not specified

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials  
(TIMs) Protected Against**

Not specified

**Duration of Protection**

Not specified

**Recommended Use(s)**

Chemical Weapons Disposal Program

**Physical Parameters**

**Sizes Available**

Not specified

**Weight**

Not specified

**Package Size and Volume**

Not specified

<b>Power Requirements</b>	Not specified
<b>Material Type</b>	Not specified
<b>Construction Type</b>	Not specified
<b>Color</b>	Not specified

**Logistical Parameters**

<b>Ease of Use</b>	Not specified
<b>Consumables</b>	Not specified
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	Not specified
<b>Transportability</b>	Not specified
<b>Operational Limitations</b>	Not specified
<b>Environmental Conditions</b>	Not specified
<b>Unit Cost</b>	Not specified
<b>Maintenance Cost</b>	Not specified
<b>Warranty</b>	Not specified
<b>Don/Doff Information</b>	Not specified
<b>Use/Reuse</b>	Not specified
<b>Launderability</b>	Not specified
<b>Accessories</b>	Not specified

**Special Requirements**

<b>Training Requirements</b>	Not specified
<b>Training Available</b>	Not specified
<b>Manuals Available</b>	Not specified
<b>Surveillance Testing Requirements</b>	Not specified
<b>Support Equipment</b>	Backflow protection valve and high-visibility hood
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	Not specified
<b>Health Hazards</b>	Not specified

**Communications Interface  
Capability**

Infrared communication window

**EOD Compatibility**

Not specified

**General**

**Name**

*“Hot” Operation: Air-Fed Garments*

**ID # 86**

Picture Not Available

**Technology**

A variety of molded parts and sub assemblies

**Stock Number**

Not specified

**Protection Type**

Percutaneous and respiratory—radioactive contamination protection

**Equipment Category**

Ensemble

**Availability**

Not specified

**Current User(s)**

Department of Energy

**Manufacturer**

Vinyl Technology, Inc.  
200-T Railroad Ave  
Monrovia, CA 91016-4643  
626-443-5257 (Tel)  
626-443-0531 (Fax)

**Manufacturer Type**

**Developer**

Rockwell International

**Source**

Internet: Vinyl Technology, Inc.

**Certification**

Not specified

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Not specified

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials  
(TIMs) Protected Against**

Not specified

**Duration of Protection**

Not specified

**Recommended Use(s)**

Not specified

**Physical Parameters**

**Sizes Available**

Not specified

**Weight**

Not specified

**Package Size and Volume**

Not specified

**Power Requirements**

Not applicable

**Material Type**

Not specified

**Construction Type**

Not specified

**Color** Not specified

**Logistical Parameters**

**Ease of Use** Not specified

**Consumables** Not specified

**Maintenance Requirements** Not specified

**Shelf Life** Not specified

**Transportability** Not specified

**Operational Limitations** Not specified

**Environmental Conditions** Not specified

**Unit Cost** Not specified

**Maintenance Cost** Not specified

**Warranty** Not specified

**Don/Doff Information** Not specified

**Use/Reuse** Not specified

**Launderability** Not specified

**Accessories** Not specified

**Special Requirements**

**Training Requirements** Not specified

**Training Available** Not specified

**Manuals Available** Not specified

**Surveillance Testing Requirements** Not specified

**Support Equipment** Not specified

**Testing Information** Not specified

**Applicable Regulations** Not specified

**Health Hazards** Not specified

**Communications Interface Capability** Not specified

**EOD Compatibility** Not specified

**General**

**Name**

*CCA\_DuPont Tyvek® F Coverall*

**ID # 87**



**Technology**

Percutaneous - barrier fabric  
TYVEK® “F” is manufactured by laminating the basic TYVEK® flash-spunbonded polyethylene material to a barrier film which is coated with a polymer. The top polymer layer allows seams to be made with a heat-sealing tape which includes the same barrier film and polymer as TYVEK® “F.” Known chemical warfare agents will not permeate these seams.

**Stock Number**

TF – size

**Protection Type**

Percutaneous

**Equipment Category**

Coverall, designed to protect workers from hazardous materials or sensitive products and processes from contamination by people

**Availability**

Commercially available

**Current User(s)**

FBI, Secret Service, NYC Police, White House Military, and the U.S. Army TEC Escort

**Manufacturer**

CCA, Manchester, England  
DuPont Europe and CCA  
DuPont Protective Apparel

**Manufacturer Type**

Foreign

**Developer**

DuPont Europe

**Source**

DuPont Europe and CCA  
DuPont Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)  
www.protectivesuits.com

**Certification**

CE certification

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

HD, L, and GB

**Biological Warfare (BW)  
Agents Protected Against**

Anthrax, Toxins

**Toxic Industrial Materials (TIMs) Protected Against**

There are over 50 industrial chemicals that Tyvek F protects against. A full list can be supplied if needed.

**Duration of Protection**

Different agents will result in different breakthrough times

**Recommended Use(s)**

Not specified

**Physical Parameters**

**Sizes Available**

Small to XXXL

**Weight**

8 oz

**Package Size and Volume**

Vacuum packed. Dimensions of the packed suit are 6 in x 8 in x 1/2 in.

**Power Requirements**

Not applicable

**Material Type**

TYVEK® “F” is manufactured by laminating the basic TYVEK® flash-spunbonded polyethylene material to a barrier film which is coated with a polymer. The top polymer layer allows seams to be made with a heat-sealing tape which includes the same barrier film and polymer as Tyvek® “F.” Known chemical warfare agents will not permeate these seams.

**Construction Type**

All seams are stitched then tape welded. Specified seam construction ensures seam strength, durability and integrity of the coverall. Garment design, seams, and closures adapted to barrier requirements. Carries the CE mark for chemical protective clothing, which is category III PPE.

**Color**

Grey and green

**Logistical Parameters**

**Ease of Use**

Wearer has plenty of movement room and the suit is extremely light weight

**Consumables**

Not applicable

**Maintenance Requirements**

None needed, except for proper storage

**Shelf Life**

Shelf Life: 10 yr when adequately packed

**Transportability**

Suit is vacuum packed and is very easily packed for mass suit transport

**Operational Limitations**

Like all protective clothing, care must be taken around sharp objects and rough areas. Suit will hold up with normal operational use. Suits will work under different environmental conditions (i.e., rain, snow, and sleet).

**Environmental Conditions**

Not applicable

**Unit Cost**

\$33 to \$39/unit

**Maintenance Cost**

None

**Warranty**

Shelf like guarantee of 8 yr

**Don/Doff Information**

No assistance required for donning and doffing

**Use/Reuse**

Yes



<b>Laundryability</b>	Not applicable
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	About 1 min
<b>Training Available</b>	Yes
<b>Manuals Available</b>	Not applicable
<b>Surveillance Testing Requirements</b>	Inspection for holes and proper storage environment
<b>Support Equipment</b>	None
<b>Testing Information</b>	DuPont Europe has done testing. Aberdeen Proving Ground is continually testing the suit.
	Chemical Warfare Agent Protection: TYVEK® “F” provides an exceptionally high level of protection for very long periods against all known chemical warfare agents. TYVEK® “F” has been tested and certified by the prestigious TNO Laboratories in the Netherlands having passed all the standard NATO tests for chemical warfare protection. In addition, chemical warfare testing facilities have satisfactorily subjected TYVEK® “F” to their own national test standards.
	Biological Warfare Agent Protection: Military TYVEK® “F” provides a total barrier against biological warfare agents. A protective suit made from TYVEK® “F” to keep out chemical warfare agents will also provide barrier protection against biological warfare agents. DuPont Europe has done testing. Aberdeen Proving Ground is continually testing the suit.
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not specified
<b>EOD Compatibility</b>	Not specified

**General**

**Name**

***Tychem<sup>®</sup> 10000 Coverall***

**ID # 88**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

100120

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper-front coverall

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

<b>Toxic Industrial Materials (TIMs) Protected Against</b>	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel fax-on-demand service at 800-558-9329 and request document 641, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Emergency response, crisis management, remediation, secondary decon in hospital or emergency area, and warm zone decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	6 lb/ctn and 2 units/ctn
<b>Package Size and Volume</b>	16 in L x 10 1/4 in W x 14 1/8 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection prior to use
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$159/carton
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials

<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 9.5 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 29 mils Mullen burst (ASTM D3786–87) 204 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 197/178 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 36/50 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

***Tychem<sup>®</sup> 10000 Coverall***

**ID # 89**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

100122

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper-front, hood, boot, and elastic wrist

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
GA, GB, GD, HD, L, and VX: Greater than 12 h at 100 g/m<sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, secondary decon in hospital or emergency area, and warm zone decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

7 lb/ctn and 2 units/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

High-visibility lime yellow

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$185/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 9.5 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 29 mils Mullen burst (ASTM D3786–87) 204 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 197/178 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 36/50 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

***Tychem<sup>®</sup> 10000 Coverall***

**ID # 90**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

100124

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper-front, respirator fit hood, boots, and elastic wrist

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)**

**Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)**

**Agents Protected Against**

Not specified



**Toxic Industrial Materials (TIMs) Protected Against**

Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
GA, GB, GD, HD, L, and VX: Greater than 12 h at 100 g/m<sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, secondary decon in hospital or emergency area, and warm zone decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

7 lb/ctn and 2 units/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

High-visibility lime yellow

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$212/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

**Don/Doff Information**

No assistance required for donning and doffing. Average donning and doffing time is minimal.

<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None

**Special Requirements**

<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 9.5 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 29 mils Mullen burst (ASTM D3786–87) 204 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 197/178 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 36/50 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

***Tychem<sup>®</sup> 10000 Coverall***

**ID # 91**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

100125

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper-front, elastic wrist, and ankles

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel

U.S. Highway #1 North

McBee, SC 29101

800-845-6962 (Tel)

843-335-8599 (Fax)

e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel

e-mail: Mary-Ann.Daniel@usa.dupont.com

POC: M. A. Daniel

888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)**

**Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)**

**Agents Protected Against**

Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
GA, GB, GD, HD, L, and VX: Greater than 12 h at 100 g/m<sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, secondary decon in hospital or emergency area, and warm zone decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

7 lb/ctn and 2 units/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

High-visibility lime yellow

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$165/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 9.5 oz/ yd <sup>2</sup> Thickness (ASTM D1777–64) 29 mils Mullen burst (ASTM D3786–87) 204 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 197/178 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 36/50 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

***Tychem<sup>®</sup> 10000 Coverall***

**ID # 92**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

100127

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper-front, hood, elastic wrist, and ankles

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
GA, GB, GD, HD, L, and VX: Greater than 12 h at 100 g/m<sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, secondary decon in hospital or emergency area, and warm zone decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

6 lb/ctn and 2 units/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

High-visibility lime yellow

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$175/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 9.5 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 29 mils Mullen burst (ASTM D3786–87) 204 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 197/178 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 36/50 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit



**General**

**Name**

***Tychem® 10000 Coverall***

**ID # 93**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics. Pictured is stock # 100256.

**Stock Number**

100187

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper-front, hood, expanded back, sock boots with flaps, and elastic wrist

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
GA, GB, GD, HD, L, and VX: Greater than 12 h at 100 g/m<sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, secondary decon in hospital or emergency area, and warm zone decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

7 lb/ctn and 2 units/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

High-visibility lime yellow

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$245/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 9.5 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 29 mils Mullen burst (ASTM D3786–87) 204 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 197/178 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 36/50 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

***Tychem<sup>®</sup> 10000 Coverall***

**ID # 94**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

100256

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper-front, hood, sock boots, with flap, and elastic wrist

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
GA, GB, GD, HD, L, and VX: Greater than 12 h at 100 g/m<sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 641, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, secondary decon in hospital or emergency area, and warm zone decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

7 lb/ctn and 2 units/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

High-visibility lime yellow

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$209/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required.
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 9.5 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 29 mils Mullen burst (ASTM D3786–87) 204 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 197/178 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 36/50 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

***Tyvek<sup>®</sup> Coverall***

**ID # 95**



**Technology**

High density spunbonded polyethylene coated with polyethylene film

**Stock Number**

14120

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper-front

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-84-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Not applicable

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials  
(TIMs) Protected Against**

Hazardous dry particulates. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 610, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

For specific test data on hazardous dry particulates, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 610, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel). No test data for CW agents.

**Recommended Use(s)**

Crisis management (post decon); remediation

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

7 lb/ctn and 25 units/ctn

**Package Size and Volume**

10 in W x 14 7/8 in L x 10 in L

**Power Requirements**

Not applicable

**Material Type**

High density spunbonded polyethylene coated with polyethylene film

**Construction Type**

Sewn seam—overedge serged seam construction offers protection against many dry particulates and light sprays

**Color**

White

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$106/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

**Don/Doff Information**

No assistance required for donning and doffing. Average donning and doffing time is minimal.

**Use/Reuse**

Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations. Can be incinerated provided garment is not contaminated with hazardous or toxic materials.

**Launderability**

Not applicable. Not intended for reuse after exposure to hazardous materials.



<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	None required
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 1.2 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 5.3 mils Strip tensile (in-lb) (ASTM D1682)(MD/CD) 7.9/7.6 Work to break (in-lb) (ASTM D1682) (MD/CD) 2.4/2.1 Tongue tear, lb (ASTM D2261 (MD/CD) Barrier data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

***Tyvek® Coverall***

**ID # 96**



**Technology**

High density spunbonded polyethylene coated with polyethylene film

**Stock Number**

14125

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper-front, elastic wrist, and ankles

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Not applicable

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials  
(TIMs) Protected Against**

Hazardous dry particulates. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 610, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

<b>Duration of Protection</b>	For specific test data on hazardous dry particulates, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 610, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> . No test data for CW agents.
<b>Recommended Use(s)</b>	Crisis management (post decon); remediation
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	7 lb/ctn and 25 units/ctn
<b>Package Size and Volume</b>	14 7/8 in L x 10 1/2 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	High density spunbonded polyethylene coated with polyethylene film
<b>Construction Type</b>	Sewn seam—overedge serged seam construction offers protection against many dry particulates and light sprays
<b>Color</b>	White
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection prior to use
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$122/carton
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations. Can be incinerated provided garment is not contaminated with hazardous or toxic materials.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to hazardous materials.
<b>Accessories</b>	None

**Special Requirements**

<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 1.2 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 5.3 mils Strip tensile (in-lb) (ASTM D1682)(MD/CD) 7.9/7.6 Work to break (in-lb) (ASTM D1682) (MD/CD) 2.4/2.1 Tongue tear, lb (ASTM D2261 (MD/CD) Barrier data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

***Tyvek® Coverall***

**ID # 97**



**Technology**

High density spunbonded polyethylene coated with polyethylene film

**Stock Number**

14126

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper-front with hood

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Not applicable

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials  
(TIMs) Protected Against**

Hazardous dry particulates. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 610, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

For specific test data on hazardous dry particulates, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 610, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel). No test data for CW agents.

**Recommended Use(s)**

Crisis management (post decon); remediation

**Physical Parameters****Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

7 lb/ctn and 25 units/ctn

**Package Size and Volume**

14 7/8 in L x 10 1/2 in W x 10 in H

**Power Requirements**

Not applicable

**Material Type**

High density spunbonded polyethylene coated with polyethylene film

**Construction Type**

Sewn seam—overedge serged seam construction offers protection against many dry particulates and light sprays

**Color**

White

**Logistical Parameters****Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$132/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

**Don/Doff Information**

No assistance required for donning and doffing. Average donning and doffing time is minimal.

**Use/Reuse**

Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations. Can be incinerated provided garment is not contaminated with hazardous or toxic materials.

**Launderability**

Not applicable. Not intended for reuse after exposure to hazardous materials.

<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	None required
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 1.2 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 5.3 mils Strip tensile (in-lb) (ASTM D1682)(MD/CD) 7.9/7.6 Work to break (in-lb) (ASTM D1682) (MD/CD) 2.4/2.1 Tongue tear, lb (ASTM D2261 (MD/CD) Barrier data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

***Tyvek® Coverall***

**ID # 98**



**Technology**

High density spunbonded polyethylene coated with polyethylene film

**Stock Number**

14127

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper-front with hood, elastic wrist, and ankles

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Not applicable

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials  
(TIMs) Protected Against**

Hazardous dry particulates. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 610, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).



**Duration of Protection**

For specific test data on hazardous dry particulates, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 610, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel). No test data for CW agents.

**Recommended Use(s)**

Crisis management (post decon); remediation

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

8 lb/ctn and 25 unit/ctn

**Package Size and Volume**

14 7/8 in L x 10 1/2 in W x 10 in H

**Power Requirements**

Not applicable

**Material Type**

High density spunbonded polyethylene coated with polyethylene film

**Construction Type**

Sewn seam—overedge serged seam construction offers protection against many dry particulates and light sprays

**Color**

White

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$131/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

**Don/Doff Information**

No assistance required for donning and doffing. Average donning and doffing time is minimal.

**Use/Reuse**

Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations. Can be incinerated provided garment is not contaminated with hazardous or toxic materials.

**Launderability**

Not applicable. Not intended for reuse after exposure to hazardous materials.

<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	None required
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 1.2 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 5.3 mils Strip tensile (in-lb) (ASTM D1682)(MD/CD) 7.9/7.6 Work to break (in-lb) (ASTM D1682) (MD/CD) 2.4/2.1 Tongue tear, lb (ASTM D2261 (MD/CD) Barrier data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

***Tyvek® Coverall***

**ID # 99**



**Technology**

High density spunbonded polyethylene coated with polyethylene film

**Stock Number**

14261

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper-front with hood, skid resistant boots, and elastic wrist

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Not applicable

**Biological Warfare (BW)  
Agents Protected Against  
Toxic Industrial Materials  
(TIMs) Protected Against**

Not specified

Hazardous dry particulates. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 610, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

For specific test data on hazardous dry particulates, call the DuPont Protective Apparel fax-on-demand service at 800-558-9329 and request document 610, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel). No test data for CW agents.

**Recommended Use(s)**

Crisis management (post decon); remediation

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

9 lb/ctn and 25 unit/ctn

**Package Size and Volume**

14 7/8 in L x 10 1/2 in W x 10 in H

**Power Requirements**

Not applicable

**Material Type**

High density spunbonded polyethylene coated with polyethylene film

**Construction Type**

Sewn seam—overedge serged seam construction offers protection against many dry particulates and light sprays

**Color**

White

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$134/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

**Don/Doff Information**

No assistance required for donning and doffing. Average donning and doffing time is minimal.

**Use/Reuse**

Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations. Can be incinerated provided garment is not contaminated with hazardous or toxic materials.

<b>Laundryability</b>	Not applicable. Not intended for reuse after exposure to hazardous materials.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request
<b>Manuals Available</b>	None required
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776-85) 1.2 oz/yd <sup>2</sup> Thickness (ASTM D1777-64) 5.3 mils Strip tensile (in-lb) (ASTM D1682)(MD/CD) 7.9/7.6 Work to break (in-lb) (ASTM D1682) (MD/CD) 2.4/2.1 Tongue tear, lb (ASTM D2261 (MD/CD) Barrier data available by calling 1-877-797-5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

*Tychem<sup>®</sup> QC Coverall*

**ID # 100**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

35120

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek<sup>®</sup> Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek<sup>®</sup> Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Not tested

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

Many inorganic acids, bases, and other liquid chemicals such as pesticides. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel). No test data available for CW agents.

**Recommended Use(s)**

Crisis management (post decon); medical triage; remediation

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

6 lb/ctn and 12 unit/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Sewn seam—overedge serged seam construction offers protection against many dry particulates and light sprays

**Color**

Yellow and Grey

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$77/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

**Don/Doff Information**

No assistance required for donning and doffing. Average donning and doffing time is minimal.

<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None

**Special Requirements**

<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 2.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 6.0 mils Mullen burst (ASTM D3786–87) 66 psi Breaking strength–Grab (md/xd) (ASTM D1682–64, sec. 5.3) 25/35 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 7/5 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit



**General**

**Name**

***Tychem® QC Coverall***

**ID# 101**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

35122

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, with hood, boots, and elastic wrist

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)**

Not tested

**Agents Protected Against**

**Biological Warfare (BW)**

Not specified

**Agents Protected Against**

**Toxic Industrial  
Materials(TIMs) Protected  
Against**

Many inorganic acids, bases, and other liquid chemicals such as pesticides. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

For specific test data on TIMs, call the DuPont Protective Apparel fax-on-demand service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel). No test data available for CW agents.

**Recommended Use(s)**

Crisis management (post decon); medical triage; remediation

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

7 lb/ctn and 12 unit/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Sewn seam—overedge serged seam construction offers protection against many dry particulates and light sprays

**Color**

Yellow and Grey

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$100/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

**Don/Doff Information**

No assistance required for donning and doffing. Average donning and doffing time is minimal.

**Use/Reuse**

Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.

**Launderability** Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.

**Accessories** None

**Special Requirements**

**Training Requirements** No special training required

**Training Available** Yes. DuPont will provide specialized group training upon request.

**Manuals Available** Permeation Guide available

**Surveillance Testing Requirements** Visual inspection (for holes and tears) prior to use

**Support Equipment** Appropriate respiratory, foot, eye/face, hand, and head protection

**Testing Information** Physical properties:  
Basis weight (ASTM D3776–85) 2.1 oz/yd<sup>2</sup>  
Thickness (ASTM D1777–64) 6.0 mils  
Mullen burst (ASTM D3786–87) 66 psi  
Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 25/35 lb  
Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 7/5 lb  
Permeation data available by calling 1–877–797–5907 or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel)

**Applicable Regulations** None

**Health Hazards** None

**Communications Interface Capability** Not applicable

**EOD Compatibility** Compatible with EOD suit

**General**

**Name**

***Tychem® QC Coverall***

**ID# 102**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

35124

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, respirator hood, boots, and elastic wrist

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)**

Not tested

**Agents Protected Against**

**Biological Warfare (BW)**

Not specified

**Agents Protected Against**

**Toxic Industrial Materials(TIMs) Protected Against** Many inorganic acids, bases, and other liquid chemicals such as pesticides. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel) .

**Duration of Protection** For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel) . No test data available for CW agents.

**Recommended Use(s)** Crisis management (post decon); medical triage; remediation

### **Physical Parameters**

**Sizes Available** S through XXXXL. Additional sizes available upon request.

**Weight** 7 lb/ctn and 12 unit/ctn

**Package Size and Volume** 14 7/8 in L x 10 1/2 in W x 10 in H

**Power Requirements** Not applicable

**Material Type** Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type** Sewn seam—overedge serged seam construction offers protection against many dry particulates and light sprays

**Color** Yellow and Grey

### **Logistical Parameters**

**Ease of Use** Ergonomically designed for maximum mobility and flexibility

**Consumables** None

**Maintenance Requirements** Visual inspection prior to use

**Shelf Life** Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability** Easily transported

**Operational Limitations** Directly relates to the physical condition of user

**Environmental Conditions** Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost** \$111/carton

**Maintenance Cost** Minimum labor cost for routine suit inspection

**Warranty** 90 d for workmanship and materials

**Don/Doff Information** No assistance required for donning and doffing. Average donning and doffing time is minimal.

**Use/Reuse** Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.

**Launderability** Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.

**Accessories** None

**Special Requirements**

**Training Requirements** No special training required

**Training Available** Yes. DuPont will provide specialized group training upon request.

**Manuals Available** Permeation Guide available

**Surveillance Testing Requirements** Visual inspection (for holes and tears) prior to use

**Support Equipment** Appropriate respiratory, foot, eye/face, hand, and head protection

**Testing Information** Physical properties:  
Basis weight (ASTM D3776–85) 2.1 oz/yd  
Thickness (ASTM D1777–64) 6.0 mils  
Mullen burst (ASTM D3786–87) 66 psi  
Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 25/35 lb  
Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 7/5 lb  
Permeation data available by calling 1–877–797–5907 or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel)

**Applicable Regulations** None

**Health Hazards** None

**Communications Interface Capability** Not applicable

**EOD Compatibility** Compatible with EOD suit

**General**

**Name**

*Tychem® QC Coverall*

**ID# 103**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

35125

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, elastic wrist, and ankles

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)**

Not tested

**Agents Protected Against**

**Biological Warfare (BW)**

Not specified

**Agents Protected Against**

**Toxic Industrial  
Materials(TIMs) Protected  
Against**

Many inorganic acids, bases, and other liquid chemicals such as pesticides. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel). No test data available for CW agents.

**Recommended Use(s)**

Crisis management (post decon); medical triage; remediation

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

6 lb/ctn and 12 unit/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Sewn seam—overedge serged seam construction offers protection against many dry particulates and light sprays

**Color**

Yellow and grey

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$80/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

**Don/DoFF Information**

No assistance required for donning and doffing. Average donning and doffing time is minimal.



<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None

**Special Requirements**

<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 2.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 6.0 mils Mullen burst (ASTM D3786–87) 66 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 25/35 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 7/5 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

**ID# 104**

***Tychem® QC Coverall***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

35127

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, hood, elastic wrist, and ankles

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)**

Not specified

**Agents Protected Against**

**Biological Warfare (BW)**

Not specified

**Agents Protected Against**

<b>Toxic Industrial Materials(TIMs) Protected Against</b>	Many inorganic acids, bases, and other liquid chemicals such as pesticides. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> . No test data available for CW agents.
<b>Recommended Use(s)</b>	Crisis management (post decon); medical triage; remediation

**Physical Parameters**

<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	6 lb/ctn and 12 unit/ctn
<b>Package Size and Volume</b>	16 in L x 10 1/4 in W x 14 1/8 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Sewn seam—overedge serged seam construction offers protection against many dry particulates and light sprays
<b>Color</b>	Yellow and grey

**Logistical Parameters**

<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection prior to use
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$87/carton
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.

**Launderability** Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.

**Accessories** None

**Special Requirements**

**Training Requirements** No special training required

**Training Available** Yes. DuPont will provide specialized group training upon request.

**Manuals Available** Permeation Guide available

**Surveillance Testing Requirements** Visual inspection (for holes and tears) prior to use

**Support Equipment** Appropriate respiratory, foot, eye/face, hand, and head protection

**Testing Information** Physical properties:  
Basis weight (ASTM D3776–85) 2.1 oz/yd<sup>2</sup>  
Thickness (ASTM D1777–64) 6.0 mils  
Mullen burst (ASTM D3786–87) 66 psi  
Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 25/35 lb  
Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 7/5 lb  
Permeation data available by calling 1–877–797–5907 or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel)

**Applicable Regulations** None

**Health Hazards** None

**Communications Interface Capability** Not applicable

**EOD Compatibility** Compatible with EOD suit

**General**

**Name**  
**ID# 105**

***Tychem® QC Coverall***



**Technology** Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number** 37120

**Protection Type** Percutaneous

**Equipment Category** Coverall; zipper front

**Availability** Commercially available

**Current User(s)** U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer** DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type** Domestic manufacturer

**Developer** DuPont Protective Apparel

**Source** DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification** Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against** Not tested

**Biological Warfare (BW)  
Agents Protected Against** Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

Many inorganic acids, bases, and other liquid chemicals such as pesticides. For specific test data, call the DuPont Protective Apparel fax-on-demand service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

For specific test data on TIMs, call the DuPont Protective Apparel fax-on-demand service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel). No test data available for CW agents

**Recommended Use(s)**

Crisis management (post decon); medical triage; remediation

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

6 lb/ctn and 12 units/ctn

**Package Size and Volume**

14 7/8 in L x 10 1/2 in W x 10 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Bound seam—tightly sewn seam is reinforced with an outer binding to further enhance seam strength and barrier quality

**Color**

Yellow and grey

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$100/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

**Don/Doff Information**

No assistance required for donning and doffing. Average donning and doffing time is minimal.

<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 2.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 6.0 mils Mullen burst (ASTM D3786–87) 66 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 25/35 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 7/5 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

**ID# 106**

***Tychem® QC Coverall***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

37122

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, hood, boot, and elastic wrist

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Not tested

**Biological Warfare (BW)  
Agents Protected Against**

Not specified



**Toxic Industrial Materials (TIMs) Protected Against**

Many inorganic acids, bases, and other liquid chemicals such as pesticides. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel). No test data available for CW agents.

**Recommended Use(s)**

Crisis management (post decon); medical triage; remediation

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

8 lb/ctn and 12 units/ctn

**Package Size and Volume**

14 7/8 in L x 10 1/2 in W x 10 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Bound seam—tightly sewn seam is reinforced with an outer binding to further enhance seam strength and barrier quality

**Color**

Yellow and grey

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$124/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

**Don/Doff Information**

No assistance required for donning and doffing. Average donning and doffing time is minimal.

<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None

**Special Requirements**

<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 2.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 6.0 mils Mullen burst (ASTM D3786–87) 66 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 25/35 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 7/5 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

***Tychem® QC Coverall***

**ID# 107**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

37124

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, respirator fit hood, boots, and elastic wrist

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)**

Not tested

**Agents Protected Against**

**Biological Warfare (BW)**

Not specified

**Agents Protected Against**

**Toxic Industrial Materials (TIMs) Protected Against**

Many inorganic acids, bases, and other liquid chemicals such as pesticides. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel). No test data available for CW agents.

**Recommended Use(s)**

Crisis management (post decon); medical triage; remediation

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

7 lb/ctn and 12 units/ctn

**Package Size and Volume**

14 7/8 in L x 10 1/2 in W x 10 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Bound seam—tightly sewn seam is reinforced with an outer binding to further enhance seam strength and barrier quality

**Color**

Yellow and grey

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$131/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

**Don/Doff Information**

No assistance required for donning and doffing. Average donning and doffing time is minimal.

<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 2.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 6.0 mils Mullen burst (ASTM D3786–87) 66 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 25/35 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 7/5 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 108**

***Tychem® QC Coverall***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

37125

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, elastic wrist, and ankle

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Not tested

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

Many inorganic acids, bases, and other liquid chemicals such as pesticides. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel). No test data available for CW agents.

**Recommended Use(s)**

Crisis management (post decon); medical triage; remediation

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

7 lb/ctn and 12 units/ctn

**Package Size and Volume**

14 7/8 in L x 10 1/2 in W x 10 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Bound seam—tightly sewn seam is reinforced with an outer binding to further enhance seam strength and barrier quality

**Color**

Yellow and grey

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$105/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

**Don/Doff Information**

No assistance required for donning and doffing. Average donning and doffing time is minimal.

<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 2.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 6.0 mils Mullen burst (ASTM D3786–87) 66 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 25/35 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 7/5 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit



**General**

**Name**

**ID# 109**

***Tychem® QC Coverall***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

37127

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, hood, elastic wrist, and ankles

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)**

Not tested

**Agents Protected Against**

**Biological Warfare (BW)**

Not specified

**Agents Protected Against**

**Toxic Industrial Materials (TIMs) Protected Against** Many inorganic acids, bases, and other liquid chemicals such as pesticides. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection** For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel). No test data available for CW agents.

**Recommended Use(s)** Crisis management (post decon); medical triage; remediation

### **Physical Parameters**

**Sizes Available** S through XXXXL. Additional sizes available upon request.

**Weight** 7 lb/ctn and 12 units/ctn

**Package Size and Volume** 14 7/8 in L x 10 1/2 in W x 10 in H

**Power Requirements** Not applicable

**Material Type** Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type** Bound seam—tightly sewn seam is reinforced with an outer binding to further enhance seam strength and barrier quality

**Color** Yellow and grey

### **Logistical Parameters**

**Ease of Use** Ergonomically designed for maximum mobility and flexibility

**Consumables** None

**Maintenance Requirements** Visual inspection prior to use

**Shelf Life** Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability** Easily transported

**Operational Limitations** Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions** Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost** \$114/carton

**Maintenance Cost** Minimum labor cost for routine suit inspection

**Warranty** 90 d for workmanship and materials

**Don/Doff Information** No assistance required for donning and doffing. Average donning and doffing time is minimal.

<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 2.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 6.0 mils Mullen burst (ASTM D3786–87) 66 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 25/35 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 7/5 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

**ID# 110**

***Tychem® SL Coverall***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

41122

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, hood, boot, and elastic wrist

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GB and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

A broad range of liquid chemicals. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
VX: Greater than 12 h at 10 g/m<sup>2</sup>  
GB, and L: Greater than 6 h at 10 g/m<sup>2</sup>  
D: Greater than 3 h at 10 g/m<sup>2</sup>. For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, medical triage, minor invasive surgical operations, and decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

4 lb/ctn and 4 units/ctn

**Package Size and Volume**

14 7/8 in L x 10 1/2 in W x 10 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

White

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$131/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 3.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 10.3 mils Mullen burst (ASTM D3786–87) 78 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 42/45 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 11/9 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

***Tychem® SL Coverall***

**ID# 111**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

41125

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, elastic wrist, and ankle

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GB and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

A broad range of liquid chemicals. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
VX: Greater than 12 h at 10 g/m<sup>2</sup>  
GB, and L: Greater than 6 h at 10 g/m<sup>2</sup>  
D: Greater than 3 h at 10 g/m<sup>2</sup>. For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, medical triage, minor invasive surgical operations, and decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

4 lb/ctn and 4 unit/ctn

**Package Size and Volume**

14 7/8 in L x 10 1/2 in W x 10 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

White

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$105/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials



<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 3.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 10.3 mils Mullen burst (ASTM D3786–87) 78 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 42/45 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 11/9 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

**ID# 112**

***Tychem® SL Coverall***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

41127

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, hood, elastic wrist, and ankles

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GB and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

A broad range of liquid chemicals. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
VX: Greater than 12 h at 10 g/m<sup>2</sup>  
GB, and L: Greater than 6 h at 10 g/m<sup>2</sup>  
D: Greater than 3 h at 10 g/m<sup>2</sup>. For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, medical triage, minor invasive surgical operations, and decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

4 lb/ctn and 4 unit/ctn

**Package Size and Volume**

14 7/8 in L x 10 1/2 in W x 10 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

White

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$112/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 3.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 10.3 mils Mullen burst (ASTM D3786–87) 78 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 42/45 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 11/9 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

**ID# 113**

***Tychem® SL Coverall***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

41187

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, expanded back, socks, boots with flaps, and elastic wrist

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GB and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

A broad range of liquid chemicals. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
VX: Greater than 12 h at 10 g/m<sup>2</sup>  
GB, and L: Greater than 6 h at 10 g/m<sup>2</sup>  
GD: Greater than 3 h at 10 g/m<sup>2</sup>. For specific test data on TIMs, call the DuPont Protective Apparel fax-on-demand service at 800-558-9329 and request document 621, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel)

**Recommended Use(s)**

Emergency response, crisis management, remediation, medical triage, minor invasive surgical operations, and decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

3 lb/ctn and 2 units/ctn

**Package Size and Volume**

14 7/8 in L x 10 1/2 in W x 10 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

White

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$97/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None

**Special Requirements**

<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 3.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 10.3 mils Mullen burst (ASTM D3786–87) 78 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 42/45 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 11/9 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

**ID# 114**

***Tychem® SL Coverall***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

41256

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, socks, boots with flaps, and elastic wrist

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GB and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified



<b>Toxic Industrial Materials (TIMs) Protected Against</b>	A broad range of liquid chemicals. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time VX: Greater than 12 h at 10 g/m <sup>2</sup> GB, and L: Greater than 6 h at 10 g/m <sup>2</sup> D: Greater than 3 h at 10 g/m <sup>2</sup> . For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Recommended Use(s)</b>	Emergency response, crisis management, remediation, medical triage, minor invasive surgical operations, and decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	5 lb/ctn and 4 unit/ctn
<b>Package Size and Volume</b>	14 7/8 in L x 10 1/2 in W x 10 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	White
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection prior to use
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$162/carton
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials

<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 3.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 10.3 mils Mullen burst (ASTM D3786–87) 78 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 42/45 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 11/9 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

**ID# 115**

***Tychem® SL Coverall***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

42120

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GB and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

<b>Toxic Industrial Materials (TIMs) Protected Against</b>	A broad range of liquid chemicals. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time VX: Greater than 12 h at 10 g/m <sup>2</sup> GB, and L: Greater than 6 h at 10 g/m <sup>2</sup> D: Greater than 3 h at 10 g/m <sup>2</sup> . For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Emergency response, crisis management, remediation, medical triage, minor invasive surgical operations, and decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	9 lb/ctn and 12 unit/ctn
<b>Package Size and Volume</b>	16 in L x 10 1/4 in W x 14 1/8 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Bound seam—tightly sewn seam is reinforced with an outer binding to further enhance seam strength and barrier quality
<b>Color</b>	White
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection prior to use
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$165/carton
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.

<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 3.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 10.3 mils Mullen burst (ASTM D3786–87) 78 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 42/45 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 11/9 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

***Tychem® SL Coverall***

**ID# 116**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

42122

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, hood, boot, and elastic wrist

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GB and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

A broad range of liquid chemicals. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
VX: Greater than 12 h at 10 g/m<sup>2</sup>  
GB, and L: Greater than 6 h at 10 g/m<sup>2</sup>  
D: Greater than 3 h at 10 g/m<sup>2</sup>. For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, medical triage, minor invasive surgical operations, and decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

11 lb/ctn and 12 unit/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Bound seam—tightly sewn seam is reinforced with an outer binding to further enhance seam strength and barrier quality

**Color**

White

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$190/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

**Don/Doff Information**

No assistance required for donning and doffing. Average donning and doffing time is minimal.

<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 3.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 10.3 mils Mullen burst (ASTM D3786–87) 78 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 42/45 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 11/9 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit



**General**

**Name**

**ID# 117**

***Tychem® SL Coverall***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

42124

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, respirator hood, boots, and elastic wrist

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GB and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

A broad range of liquid chemicals. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
VX: Greater than 12 h at 10 g/m<sup>2</sup>  
GB, and L: Greater than 6 h at 10 g/m<sup>2</sup>  
D: Greater than 3 h at 10 g/m<sup>2</sup>. For specific test data on TIMs, call the DuPont Protective Apparel fax-on-demand service at 800-558-9329 and request document 621, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, medical triage, minor invasive surgical operations, and decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

12 lb/ctn and 12 unit/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Bound seam—tightly sewn seam is reinforced with an outer binding to further enhance seam strength and barrier quality

**Color**

White

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$222/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 3.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 10.3 mils Mullen burst (ASTM D3786–87) 78 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 42/45 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 11/9 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

***Tychem® SL Coverall***

**ID# 118**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

42125

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, elastic wrist, and ankle

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)**

**Agents Protected Against**

Nerve agents (GB and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)**

**Agents Protected Against**

Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

A broad range of liquid chemicals. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
VX: Greater than 12 h at 10 g/m<sup>2</sup>  
GB, and L: Greater than 6 h at 10 g/m<sup>2</sup>  
D: Greater than 3 h at 10 g/m<sup>2</sup>. For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, medical triage, minor invasive surgical operations, and decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

9 lb/ctn and 12 unit/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Bound seam—tightly sewn seam is reinforced with an outer binding to further enhance seam strength and barrier quality

**Color**

White

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$170/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

**Don/Doff Information**

No assistance required for donning and doffing. Average donning and doffing time is minimal.

<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None

**Special Requirements**

<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 3.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 10.3 mils Mullen burst (ASTM D3786–87) 78 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 42/45 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 11/9 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

***Tychem® SL Coverall***

**ID# 119**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

42127

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, hood, elastic wrist, and ankle

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GB and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

A broad range of liquid chemicals. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
VX: Greater than 12 h at 10 g/m<sup>2</sup>  
GB, and L: Greater than 6 h at 10 g/m<sup>2</sup>  
D: Greater than 3 h at 10 g/m<sup>2</sup>. For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 621, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, medical triage, minor invasive surgical operations, and decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

10 lb/ctn and 12 units/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Bound seam—tightly sewn seam is reinforced with an outer binding to further enhance seam strength and barrier quality

**Color**

White

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$172/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

**Don/Doff Information**

No assistance required for donning and doffing. Average donning and doffing time is minimal.



**Use/Reuse** Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.

**Launderability** Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.

**Accessories** None

**Special Requirements**

**Training Requirements** No special training required

**Training Available** Yes. DuPont will provide specialized group training upon request.

**Manuals Available** Permeation Guide available

**Surveillance Testing Requirements** Visual inspection (for holes and tears) prior to use

**Support Equipment** Appropriate respiratory, foot, eye/face, hand, and head protection

**Testing Information** Physical properties:  
Basis weight (ASTM D3776–85) 3.1 oz/yd<sup>2</sup>  
Thickness (ASTM D1777–64) 10.3 mils  
Mullen burst (ASTM D3786–87) 78 psi  
Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 42/45 lb  
Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 11/9 lb  
Permeation data available by calling 1–877–797–5907 or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel)

**Applicable Regulations** None

**Health Hazards** None

**Communications Interface Capability** Not applicable

**EOD Compatibility** Compatible with EOD suit

**General**

**Name**  
**ID# 120**

***Tychem® QC Coverall***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

63122

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, hood, boot, and elastic wrist

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Not tested

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials  
(TIMs) Protected Against**

Many inorganic acids, bases, and other liquid chemicals such as pesticides. For specific test data, call the DuPont Protective Apparel fax-on-demand service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel). No test data available for CW agents.

**Recommended Use(s)**

Crisis management (post decon); medical triage; remediation

**Physical Parameters****Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

3 lb/ctn and 4 unit/ctn

**Package Size and Volume**

14 7/8 in L x 10 1/2 in W x 10 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

Yellow and grey

**Logistical Parameters****Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$101/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

**Don/Doff Information**

No assistance required for donning and doffing. Average donning and doffing time is minimal.

**Use/Reuse**

Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.

**Launderability**

Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.

**Accessories** None

**Special Requirements**

**Training Requirements** No special training required

**Training Available** Yes. DuPont will provide specialized group training upon request.

**Manuals Available** Permeation Guide available

**Surveillance Testing Requirements** Visual inspection (for holes and tears) prior to use

**Support Equipment** Appropriate respiratory, foot, eye/face, hand, and head protection

**Testing Information** Physical properties:  
Basis weight (ASTM D3776–85) 2.1 oz/yd<sup>2</sup>  
Thickness (ASTM D1777–64) 6.0 mils  
Mullen burst (ASTM D3786–87) 66 psi  
Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 25/35 lb  
Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 7/5 lb  
Permeation data available by calling 1–877–797–5907 or go to  
[www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel)

**Applicable Regulations** None

**Health Hazards** None

**Communications Interface Capability** Not applicable

**EOD Compatibility** Compatible with EOD suit

**General**

**Name**

***Tychem® QC Coverall***

**ID# 121**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

63125

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, elastic wrist, and ankle

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)**

Not tested

**Agents Protected Against**

**Biological Warfare (BW)**

Not specified

**Agents Protected Against**

**Toxic Industrial Materials (TIMs) Protected Against**

Many inorganic acids, bases, and other liquid chemicals such as pesticides. For specific test data, call the DuPont Protective Apparel fax-on-demand service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel). No test data available for CW agents.

**Recommended Use(s)**

Crisis management (post decon); medical triage; remediation

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

3 lb/ctn and 4 unit/ctn

**Package Size and Volume**

14 7/8 in L x 10 1/2 in W x 10 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

Yellow and grey

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$87/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

**Don/Doff Information**

No assistance required for donning and doffing. Average donning and doffing time is minimal.

<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None

**Special Requirements**

<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 2.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 6.0 mils Mullen burst (ASTM D3786–87) 66 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 25/35 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 7/5 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 122**

***Tychem® QC Coverall***



**Technology** Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number** 63127

**Protection Type** Percutaneous

**Equipment Category** Coverall; zipper front, hood, elastic wrist, and ankle

**Availability** Commercially available

**Current User(s)** U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer** DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type** Domestic manufacturer

**Developer** DuPont Protective Apparel

**Source** DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification** Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against** Not tested

**Biological Warfare (BW)  
Agents Protected Against** Not specified



**Toxic Industrial Materials (TIMs) Protected Against**

Many inorganic acids, bases, and other liquid chemicals such as pesticides. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel). No test data available for CW agents.

**Recommended Use(s)**

Crisis management (post decon); medical triage; remediation

**Physical Parameters****Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

3 lb/ctn and 4 unit/ctn

**Package Size and Volume**

14 7/8 in L x 10 1/2 in W x 10 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

Yellow and grey

**Logistical Parameters****Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$93/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

**Don/Doff Information**

No assistance required for donning and doffing. Average donning and doffing time is minimal.

<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 2.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 6.0 mils Mullen burst (ASTM D3786–87) 66 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 25/35 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 7/5 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

**ID# 123**

***Tychem® QC Coverall***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

63187

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, hood, expanded back, sock boots with flaps, and elastic wrist

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Not tested

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

Many inorganic acids, bases, and other liquid chemicals such as pesticides. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel). No test data available for CW agents.

**Recommended Use(s)**

Crisis management (post decon); medical triage; remediation

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

3 lb/ctn and 2 units/ctn

**Package Size and Volume**

14 7/8 in L x 10 1/2 in W x 10 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

Yellow and grey

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$79/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 2.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 6.0 mils Mullen burst (ASTM D3786–87) 66 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 25/35 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 7/5 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 124**

***Tychem® QC Coverall***



**Technology** Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number** 63256

**Protection Type** Percutaneous

**Equipment Category** Coverall; zipper front, hood, sock boots with flap, and elastic wrist

**Availability** Commercially available

**Current User(s)** U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer** DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type** Domestic manufacturer

**Developer** DuPont Protective Apparel

**Source** DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification** Not applicable

**Operational Parameters**

**Chemical Warfare (CW)** Agents Protected Against Not tested

**Biological Warfare (BW)** Agents Protected Against Not specified

**Toxic Industrial Materials (TIMs) Protected Against**

Many inorganic acids, bases, and other liquid chemicals such as pesticides. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 616, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel). No test data available for CW agents.

**Recommended Use(s)**

Crisis management (post decon); medical triage; remediation

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

4 lb/ctn and 4 unit/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

Yellow and grey

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$122/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

**Don/DoFF Information**

No assistance required for donning and doffing. Average donning and doffing time is minimal.

<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 2.1 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 6.0 mils Mullen burst (ASTM D3786–87) 66 psi Breaking strength—Grab (md/xd) (ASTM D1682–64, sec. 5.3) 25/35 lb Tearing strength—Trapezoid (md/xd) (ASTM D1117–80) 7/5 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit



**General**

**Name**  
**ID# 125**

***Tychem® BR Coverall***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

95120

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

A broad range of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 648, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m<sup>2</sup>  
GB, HD, and VX: Greater than 12 h at 100 g/m<sup>2</sup> (total coverage)  
L: Greater than 2 h at 100 g/m<sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 636, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, secondary decon in hospital or emergency area, and warm zone decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

4 lb/ctn and 2 units/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

Yellow or olive drab

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$83/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 6.6 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 16 mils Ball burst (ASTM D3787–89) 90 psi Breaking strength—Grab (md/xd) (ASTM D5034) 90/84 lbs. Tearing strength—Trapezoid (md/xd) (ASTM D5597) 19/19 lbs. Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

***Tychem® BR Coverall***

**ID# 126**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

95122

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, hood, boot, and elastic wrist

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

A broad range of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 648, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m<sup>2</sup>  
GB, HD, and VX: Greater than 12 h at 100 g/m<sup>2</sup> (total coverage)  
L: Greater than 2 h at 100 g/m<sup>2</sup> (total coverage)  
Fabric test data: Average breakthrough time  
GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m<sup>2</sup>  
GB, HD, and VX: Greater than 12 h at 100 g/m<sup>2</sup> (total coverage)  
L: Greater than 2 h at 100 g/m<sup>2</sup> (total coverage). For specific test data on  
TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at  
800-558-9329 and request document 636, or go to  
[www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, secondary decon in hospital or emergency area, and warm zone decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

4 lb/ctn and 2 units/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

Yellow or olive drab

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$113/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 6.6 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 16 mils Ball burst (ASTM D3787–89) 90 psi Breaking strength—Grab (md/xd) (ASTM D5034) 90/84 lbs. Tearing strength—Trapezoid (md/xd) (ASTM D5597) 19/19 lbs. Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 127**

***Tychem® BR Coverall***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

95124

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, respirator hood, boots, and elastic wrists

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against  
Toxic Industrial (TIMs)  
Protected Against**

Not specified

A broad range of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 648, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> GB, HD, and VX: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) L: Greater than 2 h at 100 g/m <sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 636, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Emergency response, crisis management, remediation, secondary decon in hospital or emergency area, and warm zone decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	4 lb/ctn and 2 units/ctn
<b>Package Size and Volume</b>	16 in L x 10 1/4 in W x 14 1/8 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	Yellow or olive drab
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection prior to use
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$119/carton
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.



<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 6.6 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 16 mils Ball burst (ASTM D3787–89) 90 psi Breaking strength—Grab (md/xd) (ASTM D5034) 90/84 lbs. Tearing strength—Trapezoid (md/xd) (ASTM D5597) 19/19 lbs. Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

**ID# 128**

***Tychem® BR Coverall***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

95125

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, elastic wrists, and ankles

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against  
Toxic Industrial (TIMs)  
Protected Against**

Not specified

A broad range of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 648, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> GB, HD, and VX: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) L: Greater than 2 h at 100 g/m <sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 636, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Emergency response, crisis management, remediation, secondary decon in hospital or emergency area, and warm zone decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	4 lb/ctn and 2 units/ctn
<b>Package Size and Volume</b>	16 in L x 10 1/4 in W x 14 1/8 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	Yellow or olive drab
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection prior to use
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$92/carton
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal..

<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 6.6 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 16 mils Ball burst (ASTM D3787–89) 90 psi Breaking strength—Grab (md/xd) (ASTM D5034) 90/84 lb Tearing strength—Trapezoid (md/xd) (ASTM D5597) 19/19 lb Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 129**

***Tychem® BR Coverall***



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

95127

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, hood, elastic wrists, and ankles

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

A broad range of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 648, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m<sup>2</sup>  
GB, HD, and VX: Greater than 12 h at 100 g/m<sup>2</sup> (total coverage)  
L: Greater than 2 h at 100 g/m<sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 636, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, secondary decon in hospital or emergency area, and warm zone decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

4 lb/ctn and 2 units/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

Yellow or olive drab

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$95/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 6.6 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 16 mils Ball burst (ASTM D3787–89) 90 psi Breaking strength—Grab (md/xd) (ASTM D5034) 90/84 lbs. Tearing strength—Trapezoid (md/xd) (ASTM D5597) 19/19 lbs. Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 130**

***Tychem® BR Coverall***

Picture Not Available

**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

95187

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, hood, expanded back, sock boots with flaps, and elastic wrists

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

A broad range of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 648, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).



<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> GB, HD, and VX: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) L: Greater than 2 h at 100 g/m <sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 636, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Emergency response, crisis management, remediation, secondary decon in hospital or emergency area, and warm zone decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	4 lb/ctn and 2 units/ctn
<b>Package Size and Volume</b>	16 in L x 10 1/4 in W x 14 1/8 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	Yellow or olive drab
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection prior to use
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$145/carton
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.

<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 6.6 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 16 mils Ball burst (ASTM D3787–89) 90 psi Breaking strength—Grab (md/xd) (ASTM D5034) 90/84 lbs. Tearing strength—Trapezoid (md/xd) (ASTM D5597) 19/19 lbs. Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 131**

***Tychem® BR Coverall***



**Technology** Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number** 95256

**Protection Type** Percutaneous

**Equipment Category** Coverall; zipper front, hood, sock boot/flap, and elastic wrist

**Availability** Commercially available

**Current User(s)** U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer** DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type** Domestic manufacturer

**Developer** DuPont Protective Apparel

**Source** DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
888-577-6960 (Tel)  
POC: M. A. Daniel

**Certification** Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against** Nerve agents (GA, GB, GD and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against** Not specified

<b>Toxic Industrial (TIMs) Protected Against</b>	A broad range of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 648, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> GB, HD, and VX: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) L: Greater than 2 h at 100 g/m <sup>2</sup> (total coverage). For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 636, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Emergency response, crisis management, remediation, secondary decon in hospital or emergency area, and warm zone decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	4 lb/ctn and 2 units/ctn
<b>Package Size and Volume</b>	16 in L x 10 1/4 in W x 14 1/8 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	Yellow or olive drab
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection prior to use
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$130/carton
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection

<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776–85) 6.6 oz/yd <sup>2</sup> Thickness (ASTM D1777–64) 16 mils Ball burst (ASTM D3787–89) 90 psi Breaking strength—Grab (md/xd) (ASTM D5034) 90/84 lbs. Tearing strength—Trapezoid (md/xd) (ASTM D5597) 19/19 lbs. Permeation data available by calling 1–877–797–5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**  
**ID# 132**

***Tychem® TK Coverall***



**Technology** Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number** TK120

**Protection Type** Percutaneous

**Equipment Category** Coverall; zipper-front

**Availability** Commercially available

**Current User(s)** U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer** DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type** Domestic manufacturer

**Developer** DuPont Protective Apparel

**Source** DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification** Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against** Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against** Not specified

**Toxic Industrial (TIMs)  
Protected Against**

Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
GB, HD, VX, and L: Greater than 12 h at 100 g/m<sup>2</sup> (total coverage)  
GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m<sup>2</sup>. For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, secondary decon in hospital or emergency area, and warm zone decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

6 lb/ctn and 2 units/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

High-visibility lime yellow

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$159/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776) 10.6 oz/yd <sup>2</sup> Thickness (ASTM D1777) 26 mils Ball burst (ASTM D3787) 187 psi Breaking strength—Grab (md/xd) (ASTM D15034) 188/180 lbs. Tearing strength—Trapezoid (md/xd) (ASTM D5733) 53/52 lbs. Permeation data available by calling 1-877-797-5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit



**General**

**Name**

***Tychem® TK Coverall***

**ID# 133**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

TK122

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper-front, hood, boot, and elastic wrist

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
GB, HD, VX, and L: Greater than 12 h at 100 g/m<sup>2</sup> (total coverage)  
GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m<sup>2</sup>. For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, secondary decon in hospital or emergency area, and warm zone decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

7 lb/ctn and 2 units/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

High-visibility lime yellow

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use.

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$185/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776) 10.6 oz/yd <sup>2</sup> Thickness (ASTM D1777) 26 mils Ball burst (ASTM D3787) 187 psi Breaking strength—Grab (md/xd) (ASTM D15034) 188/180 lbs. Tearing strength—Trapezoid (md/xd) (ASTM D5733) 53/52 lbs. Permeation data available by calling 1-877-797-5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

***Tychem® TK Coverall***

**ID# 134**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

TK124

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper-front

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

<b>Toxic Industrial (TIMs) Protected Against</b>	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GB, HD, VX, and L: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> . For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Emergency response, crisis management, remediation, secondary decon in hospital or emergency area, and warm zone decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	7 lb/ctn and 2 units/ctn
<b>Package Size and Volume</b>	16 in L x 10 1/4 in W x 14 1/8 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection prior to use
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$212/carton
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials

<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776) 10.6 oz/yd <sup>2</sup> Thickness (ASTM D1777) 26 mils Ball burst (ASTM D3787) 187 psi Breaking strength—Grab (md/xd) (ASTM D15034) 188/180 lbs. Tearing strength—Trapezoid (md/xd) (ASTM D5733) 53/52 lbs. Permeation data available by calling 1-877-797-5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

***Tychem® TK Coverall***

**ID# 135**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

TK125

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, elastic wrists, and ankles

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GB, HD, VX, and L: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> . For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Emergency response, crisis management, remediation, secondary decon in hospital or emergency area, and warm zone decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	7 lb/ctn and 2 units/ctn
<b>Package Size and Volume</b>	16 in L x 10 1/4 in W x 14 1/8 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection prior to use
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$165/carton
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.



<b>Laundryability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776) 10.6 oz/yd <sup>2</sup> Thickness (ASTM D1777) 26 mils Ball burst (ASTM D3787) 187 psi Breaking strength—Grab (md/xd) (ASTM D15034) 188/180 lbs. Tearing strength—Trapezoid (md/xd) (ASTM D5733) 53/52 lbs. Permeation data available by calling 1-877-797-5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

***Tychem® TK Coverall***

**ID# 136**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

TK127

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, hood, elastic wrists, and ankles

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

<b>Toxic Industrial (TIMs) Protected Against</b>	Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GB, HD, VX, and L: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> . For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Emergency response, crisis management, remediation, secondary decon in hospital or emergency area, and warm zone decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	6 lb/ctn and 2 units/ctn
<b>Package Size and Volume</b>	16 in L x 10 1/4 in W x 14 1/8 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection prior to use
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$175/carton
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials

<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776) 10.6 oz/yd <sup>2</sup> Thickness (ASTM D1777) 26 mils Ball burst (ASTM D3787) 187 psi Breaking strength—Grab (md/xd) (ASTM D15034) 188/180 lbs. Tearing strength—Trapezoid (md/xd) (ASTM D5733) 53/52 lbs. Permeation data available by calling 1-877-797-5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

***Tychem® TK Coverall***

**ID# 137**



**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

TK256

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, hood, sock boots with flap, and elastic wrist

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Duration of Protection**

Fabric test data: Average breakthrough time  
GB, HD, VX, and L: Greater than 12 h at 100 g/m<sup>2</sup> (total coverage)  
GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m<sup>2</sup>. For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).

**Recommended Use(s)**

Emergency response, crisis management, remediation, secondary decon in hospital or emergency area, and warm zone decon

**Physical Parameters**

**Sizes Available**

S through XXXXL. Additional sizes available upon request.

**Weight**

7 lb/ctn and 2 units/ctn

**Package Size and Volume**

16 in L x 10 1/4 in W x 14 1/8 in H

**Power Requirements**

Not applicable

**Material Type**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Construction Type**

Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.

**Color**

High-visibility lime yellow

**Logistical Parameters**

**Ease of Use**

Ergonomically designed for maximum mobility and flexibility

**Consumables**

None

**Maintenance Requirements**

Visual inspection prior to use

**Shelf Life**

Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.

**Transportability**

Easily transported

**Operational Limitations**

Directly relates to the physical condition of user. Compatible with all commercial cooling systems.

**Environmental Conditions**

Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.

**Unit Cost**

\$208/carton

**Maintenance Cost**

Minimum labor cost for routine suit inspection

**Warranty**

90 d for workmanship and materials

<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.
<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776) 10.6 oz/yd <sup>2</sup> Thickness (ASTM D1777) 26 mils Ball burst (ASTM D3787) 187 psi Breaking strength—Grab (md/xd) (ASTM D15034) 188/180 lbs. Tearing strength—Trapezoid (md/xd) (ASTM D5733) 53/52 lbs. Permeation data available by calling 1-877-797-5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

*Tychem® TK Coverall*

**ID# 138**

Picture Not Available

**Technology**

Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics

**Stock Number**

TK187

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, hood, expanded back, sock boots with flaps, and elastic wrists

**Availability**

Commercially available

**Current User(s)**

U.S. government/military, local government/fire department, emergency response teams, general industry, remediation companies, and chemical manufacturing. Specific organizations currently using item available upon request.

**Manufacturer**

DuPont Tyvek® Protective Apparel  
U.S. Highway #1 North  
McBee, SC 29101  
800-845-6962 (Tel)  
843-335-8599 (Fax)  
e-mail: tyvekinf@usa.dupont.com

**Manufacturer Type**

Domestic manufacturer

**Developer**

DuPont Protective Apparel

**Source**

DuPont Tyvek® Protective Apparel  
e-mail: Mary-Ann.Daniel@usa.dupont.com  
POC: M. A. Daniel  
888-577-6960 (Tel)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

Excellent protection against a wide variety of TIMs. For specific test data, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to [www.dupont.com/tyvek/protective-apparel](http://www.dupont.com/tyvek/protective-apparel).



<b>Duration of Protection</b>	Fabric test data: Average breakthrough time GB, HD, VX, and L: Greater than 12 h at 100 g/m <sup>2</sup> (total coverage) GA, GB, GD, HD, L, and VX: Greater than 12 h at 10 g/m <sup>2</sup> . For specific test data on TIMs, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request document 651, or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a> .
<b>Recommended Use(s)</b>	Emergency response, crisis management, remediation, secondary decon in hospital or emergency area, and warm zone decon
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through XXXXL. Additional sizes available upon request.
<b>Weight</b>	7 lb/ctn and 2 units/ctn
<b>Package Size and Volume</b>	16 in L x 10 1/4 in W x 14 1/8 in H
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Selectively impermeable composite consisting of thermoplastic barrier films laminated to high strength thermoplastic nonwoven fabrics
<b>Construction Type</b>	Thermo Bond seam—sewn and taped. This exceptionally strong and chemical resistant seam construction provides a reliable barrier against heavy liquid splashes and rigorous seam stress.
<b>Color</b>	High-visibility lime yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Ergonomically designed for maximum mobility and flexibility. Very flexible with wide range of vision. Compatible with most commercial SCBA equipment.
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Visual inspection prior to use
<b>Shelf Life</b>	Store in a cool, dry environment in original packaging. Manufacturer recommends designating “for training use only” after 5 yr of storage.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Directly relates to the physical condition of user. Compatible with all commercial cooling systems.
<b>Environmental Conditions</b>	Can be used in all common outdoor weather conditions and climates. Rain, snow, extreme temperatures and humidity will have no effect on the suit.
<b>Unit Cost</b>	\$245/carton
<b>Maintenance Cost</b>	Minimum labor cost for routine suit inspection
<b>Warranty</b>	90 d for workmanship and materials
<b>Don/Doff Information</b>	No assistance required for donning and doffing. Average donning and doffing time is minimal.

<b>Use/Reuse</b>	Discard after use. Decontamination specific to chemical exposure. Disposal per jurisdictional regulations.
<b>Launderability</b>	Not applicable. Not intended for reuse after exposure to toxic chemicals. Dirt and dust can be manually removed with soap and water.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No special training required
<b>Training Available</b>	Yes. DuPont will provide specialized group training upon request.
<b>Manuals Available</b>	Permeation Guide available
<b>Surveillance Testing Requirements</b>	Visual inspection (for holes and tears) prior to use
<b>Support Equipment</b>	Appropriate respiratory, foot, eye/face, hand, and head protection
<b>Testing Information</b>	Physical properties: Basis weight (ASTM D3776) 10.6 oz/yd <sup>2</sup> Thickness (ASTM D1777) 26 mils Ball burst (ASTM D3787) 187 psi Breaking strength—Grab (md/xd) (ASTM D15034) 188/180 lbs. Tearing strength—Trapezoid (md/xd) (ASTM D5733) 53/52 lbs. Permeation data available by calling 1-877-797-5907 or go to <a href="http://www.dupont.com/tyvek/protective-apparel">www.dupont.com/tyvek/protective-apparel</a>
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Compatible with EOD suit

**General**

**Name**

***Kappler Coverall***

**ID# 139**



**Technology**

Multi-layer barrier film laminated to a durable 2.0 oz polypropylene substrate. Provides protection in rigorous activities and where there is potential for chemical splash.

**Stock Number**

3T424

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, attached hood, and sock boots. (Sock boots to be worn inside regular work boots). Elastic wrists.

**Availability**

In stock

**Current User(s)**

Emergency HAZMAT teams, fire departments, and law enforcement

**Manufacturer**

Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kappler.com

**Manufacturer Type**

Domestic

**Developer**

Kappler Protective Apparel and Fabrics  
70 Grimes Drive  
Gunterville, AL 35976

**Source**

www.kappler.com

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

HD, GB, GD, and VX

**Biological Warfare (BW)  
Agents Protected Against  
Toxic Industrial (TIMs)  
Protected Against**

Not applicable

Contact Kappler for permeation guides

<b>Duration of Protection</b>	Contact Kappler for permeation guides
<b>Recommended Use(s)</b>	Emergency hazmat teams, chemical handling, chemical warfare protection, hazardous wastes, and materials cleanups
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S-XL, 2X, and 3X
<b>Weight</b>	Average packaging weight is 12 lb per case of six
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Multi-layer barrier film laminated to a durable 2.0 oz polypropylene substrate. Greater physical strength and chemical holdout protection when compared to other film products. Provides protection in rigorous activities and where there is potential for chemical splash.
<b>Construction Type</b>	Taped seam—seam produced when a sewn seam is covered with a strip of compatible material. The strip is attached by heat-sealing as with film laminated materials.
<b>Color</b>	Tan
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Some instruction required
<b>Consumables</b>	Not applicable
<b>Maintenance Requirements</b>	Suits should be stored in a cool dry area away from direct sunlight. Garments should have a visual test upon arrival from manufacture, annually and/or after each use and a quick reinspection before each use.
<b>Shelf Life</b>	Under proper storage conditions, there is no evidence to indicate that the System CPF® film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of “aged” and new Responder® fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to “training use only” be considered when they no longer pass the visual inspection and/or pressure test.
<b>Transportability</b>	Not applicable
<b>Operational Limitations</b>	There are uses and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified government and industry standards.
<b>Environmental Conditions</b>	Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures.
<b>Unit Cost</b>	Contact customer service for pricing

<b>Maintenance Cost</b>	Product is designed for limited use
<b>Warranty</b>	It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.
<b>Don/Doff Information</b>	See instruction manual for donning and doffing instructions
<b>Use/Reuse</b>	See instruction manual for suggestions on decontamination
<b>Launderability</b>	See instruction manual for suggestions on decontamination
<b>Accessories</b>	Additional accessories that may be purchased include chemtape, kooljacket, Tingley hazmat boots, and decon shower
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Some instruction required
<b>Training Available</b>	Training video and Suit Smart CD
<b>Manuals Available</b>	Not applicable
<b>Surveillance Testing Requirements</b>	Visual inspections upon receipt from manufacture, after each use and/or annually, before each use
<b>Support Equipment</b>	Appropriate respiratory equipment
<b>Testing Information</b>	Contact Kappler for permeation guides
<b>Applicable Regulations</b>	OSHA 1910.132 and OSHA 1910.120
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Not applicable

**General**

**Name**

***Kappler Coverall***

**ID# 140**



**Technology**

Multi-layer barrier film laminated to a durable 2.0 oz polypropylene substrate. Provides protection in rigorous activities and where there is potential for chemical splash.

**Stock Number**

3T426

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front with single storm flap, attached hood and sock boots with boot flaps (splash guards). (Sock boots to be worn inside regular work boots). Elastic wrists.

**Availability**

In stock

**Current User(s)**

Emergency HAZMAT teams, fire departments, and law enforcement

**Manufacturer**

Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kappler.com

**Manufacturer Type**

Domestic

**Developer**

Kappler Protective Apparel and Fabrics  
70 Grimes Drive  
Guntersville, AL 35976

**Source**

www.kappler.com

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

HD, GB, GD, and VX

**Biological Warfare (BW)  
Agents Protected Against**

Not applicable

<b>Toxic Industrial (TIMs) Protected Against</b>	Contact Kappler for permeation guides
<b>Duration of Protection</b>	Contact Kappler for permeation guides
<b>Recommended Use(s)</b>	Emergency hazmat teams, chemical handling, chemical warfare protection, hazardous wastes, and materials cleanups
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S-XL, 2X, and 3X
<b>Weight</b>	Average packaging weight is 12 lb per case of six
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Multi-layer barrier film laminated to a durable 2.0 oz polypropylene substrate. Greater physical strength and chemical holdout protection when compared to other film products. Provides protection in rigorous activities and where there is potential for chemical splash.
<b>Construction Type</b>	Taped seam—seam produced when a sewn seam is covered with a strip of compatible material. The strip is attached by heat-sealing as with film laminated materials.
<b>Color</b>	Tan
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Some instruction required
<b>Consumables</b>	Not applicable
<b>Maintenance Requirements</b>	Suits should be stored in a cool dry area away from direct sunlight. Garments should have a visual test upon arrival from manufacture, annually and/or after each use and a quick reinspection before each use.
<b>Shelf Life</b>	Under proper storage conditions, there is no evidence to indicate that the System CPF® film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of “aged” and new Responder® fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to “training use only” be considered when they no longer pass the visual inspection and/or pressure test.
<b>Transportability</b>	Not applicable
<b>Operational Limitations</b>	There are uses and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified government and industry standards.

<b>Environmental Conditions</b>	Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, “Test Methods for Coated Fabrics,” using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in contact with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, “Standard Test Method for Coated Fabrics—Low Temperature Bend Test.” This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at –85 °F (-65 °C) and the fabrics showed no signs of damage.
<b>Unit Cost</b>	Contact customer service for pricing
<b>Maintenance Cost</b>	Product is designed for limited use
<b>Warranty</b>	It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.
<b>Don/Doff Information</b>	See instruction manual for donning and doffing instructions
<b>Use/Reuse</b>	See instruction manual for suggestions on decontamination
<b>Laundryability</b>	See instruction manual for suggestions on decontamination
<b>Accessories</b>	Additional accessories that may be purchased include chemtape, kooljacket, Tingley hazmat boots, and decon shower
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Some instruction required
<b>Training Available</b>	Training video and Suit Smart CD



<b>Manuals Available</b>	Not applicable
<b>Surveillance Testing Requirements</b>	Visual inspections upon receipt from manufacture, after each use and/or annually, before each use
<b>Support Equipment</b>	Appropriate respiratory equipment
<b>Testing Information</b>	Contact Kappler for permeation guides
<b>Applicable Regulations</b>	OSHA 1910.132 and OSHA 1910.120
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Not applicable

**General**

**Name**

*Kappler CPF 3 Coverall*

**ID# 141**



**Technology**

Multi-layer barrier film laminated to a durable 2.0 oz polypropylene substrate. Provides protection in rigorous activities and where there is potential for chemical splash.

**Stock Number**

3T438. Pictured is 3T428.

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, attached hood, elastic wrists, and ankles

**Availability**

In stock

**Current User(s)**

Emergency HAZMAT teams, fire departments, and law enforcement

**Manufacturer**

Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kappler.com

**Manufacturer Type**

Domestic

**Developer**

Kappler Protective Apparel and Fabrics  
70 Grimes Drive  
Guntersville, AL 35976

**Source**

www.kappler.com

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

HD, GB, GD, and VX

**Biological Warfare (BW)  
Agents Protected Against**

Not applicable

<b>Toxic Industrial (Times) Protected Against</b>	Contact Kappler for permeation guides
<b>Duration of Protection</b>	Contact Kappler for permeation guides
<b>Recommended Use(s)</b>	Emergency HAZMAT teams, chemical handling, chemical warfare protection, hazardous wastes, and materials cleanups
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S-XL, 2X, and 3X
<b>Weight</b>	Average packaging weight is 10 lb per case of six
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Multi-layer barrier film laminated to a durable 2.0 oz polypropylene substrate. Greater physical strength and chemical holdout protection when compared to other film products. Provides protection in rigorous activities and where there is potential for chemical splash.
<b>Construction Type</b>	Taped seam—seam produced when a sewn seam is covered with a strip of compatible material. The strip is attached by heat-sealing as with film laminated materials.
<b>Color</b>	Tan
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Some instruction required
<b>Consumables</b>	Not applicable
<b>Maintenance Requirements</b>	Suits should be stored in a cool dry area away from direct sunlight. Garments should have a visual test upon arrival from manufacture, annually and/or after each use and a quick reinspection before each use.
<b>Shelf Life</b>	Under proper storage conditions, there is no evidence to indicate that the System CPF® film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of “aged” and new Responder® fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to “training use only” be considered when they no longer pass the visual inspection and/or pressure test.
<b>Transportability</b>	Not applicable
<b>Operational Limitations</b>	There are uses and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified government and industry standards.

<b>Environmental Conditions</b>	Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, “Test Methods for Coated Fabrics,” using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in contact with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, “Standard Test Method for Coated Fabrics—Low Temperature Bend Test.” This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.
<b>Unit Cost</b>	Contact customer service for pricing
<b>Maintenance Cost</b>	Product is designed for limited use
<b>Warranty</b>	It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.
<b>Don/Doff Information</b>	See instruction manual for donning and doffing instructions
<b>Use/Reuse</b>	See instruction manual for suggestions on decontamination
<b>Launderability</b>	See instruction manual for suggestions on decontamination
<b>Accessories</b>	Additional accessories that may be purchased include chemtape, kooljacket, Tingley HAZMAT boots, and decon shower
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Some instruction required
<b>Training Available</b>	Training video and Suit Smart CD

<b>Manuals Available</b>	Not applicable
<b>Surveillance Testing Requirements</b>	Visual inspections upon receipt from manufacture, after each use and/or annually, before each use
<b>Support Equipment</b>	Appropriate respiratory equipment
<b>Testing Information</b>	Contact Kappler for permeation guides
<b>Applicable Regulations</b>	OSHA 1910.132 and OSHA 1910.120
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Not applicable

**General**

**Name**

***Kappler Responder® Level B Coverall***

**ID# 142**

Picture Not Available

**Technology**

Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material

**Stock Number**

41250

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall, zipper front, collar, elastic wrists, and ankles

**Availability**

In stock

**Current User(s)**

Fire departments, HAZMAT response teams, and law enforcement

**Manufacturer**

Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kappler.com

**Manufacturer Type**

Domestic

**Developer**

Kappler Protective Apparel and Fabrics  
70 Grimes Drive  
Gunterville, AL 35976

**Source**

www.kappler.com

**Certification**

None

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

HD, GB, GD, L, and VX

**Biological Warfare (BW)  
Agents Protected Against**

Not applicable

**Toxic Industrial (TIMs)  
Protected Against**

Contact Kappler for permeation guides

**Duration of Protection**

Contact Kappler for permeation guides

**Recommended Use(s)**

Emergency HAZMAT teams, chemical handling, and chemical warfare protection and when protection is needed against potential flash fire and/or NFPA certified garments are required.

**Physical Parameters**

<b>Sizes Available</b>	S, M, L, XL, 2X, and 3X
<b>Weight</b>	Average packaging weight is 9 lb
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material
<b>Construction Type</b>	Seams are double taped—produced when a sewn seam is covered with a strip of compatible material on both the inside and the outside of the suit. The strip is attached by heat-sealing as with film laminated fabrics.
<b>Color</b>	Blue
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Some instruction required
<b>Consumables</b>	Not applicable
<b>Maintenance Requirements</b>	Suits should be stored in a cool dry area away from direct sunlight. Level A garments should have a visual test and be pressure tested according to the ASTM F1052 Air Pressure Test Method upon arrival from manufacture, annually and/or after each use and a quick reinspection before each use.
<b>Shelf Life</b>	Under proper storage conditions, there is no evidence to indicate that the System CPF® film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of "aged" and new Responder® fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to "Training Use Only" be considered when they no longer pass the visual inspection and/or pressure test.
<b>Transportability</b>	Not applicable
<b>Operational Limitations</b>	There are uses and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified government and industry standards. CAUTION: Do not use for fire protection. Avoid open flame or intense heat.
<b>Environmental Conditions</b>	Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, "Test Methods for Coated Fabrics," using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in contact with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, "Standard Test Method for Coated Fabrics - Low Temperature Bend Test." This test subjects the

fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.

<b>Unit Cost</b>	Contact customer service for pricing
<b>Maintenance Cost</b>	Product is designed for limited use
<b>Warranty</b>	It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.
<b>Don/Doff Information</b>	See Level B instruction manual for instructions on donning and doffing
<b>Use/Reuse</b>	See Level B instruction manual for suggestions on decontamination
<b>Launderability</b>	See Level B instruction manual for suggestions on decontamination
<b>Accessories</b>	Additional accessories that may be purchased include chemtape, kooljacket, Tingley HAZMAT boot, and decon shower
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Some instruction required
<b>Training Available</b>	Level B instruction manual, training video, and Suit Smart CD
<b>Manuals Available</b>	Level B instruction manual
<b>Surveillance Testing Requirements</b>	Visual inspection and in the case of Level A garments pressure testing according to ASTM F1052 upon receipt from manufacturer, after each use and/or annually, and before reuse
<b>Support Equipment</b>	Appropriate respiratory equipment
<b>Testing Information</b>	See attached permeation guides
<b>Applicable Regulations</b>	OSHA 1910.132 and OSHA 1910.120



<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Not applicable

**General**

**Name**

***Kappler Responder® Level B Coverall***

**ID# 143**



**Technology**

Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material

**Stock Number**

41255

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall, zipper front with storm flap, attached hood with elastic around face opening, elastic wrists, and ankles

**Availability**

In stock

**Current User(s)**

Emergency HAZMAT teams, fire departments, and law enforcement

**Manufacturer**

Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kappler.com

**Manufacturer Type**

Domestic

**Developer**

Kappler Protective Apparel and Fabrics  
70 Grimes Drive  
Guntersville, AL 35976

**Source**

www.kappler.com

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

HD, GB, GD, L, and VX

**Biological Warfare (BW)  
Agents Protected Against**

Not applicable

<b>Toxic Industrial (TIMs) Protected Against</b>	Contact Kappler for permeation guides
<b>Duration of Protection</b>	Contact Kappler for permeation guides
<b>Recommended Use(s)</b>	Emergency HAZMAT teams, chemical handling, chemical warfare protection, hazardous wastes, and materials cleanups
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S-XL, 2X, and 3X
<b>Weight</b>	Average packaging weight is 4 lb
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material
<b>Construction Type</b>	Taped seam—seam produced when a sewn seam is covered with a strip of compatible material. The strip is attached by heat-sealing as with film laminated materials.
<b>Color</b>	Blue
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Some instruction required
<b>Consumables</b>	Not applicable
<b>Maintenance Requirements</b>	Suits should be stored in a cool dry area away from direct sunlight. Level A garments should have a visual test and be pressure tested according to the ASTM F1052 Air Pressure Test Method upon arrival from manufacture, annually and/or after each use and a quick re-inspection before each use.
<b>Shelf Life</b>	Under proper storage conditions, there is no evidence to indicate that the System CPF® film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of “aged” and new Responder® fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to “training use only” be considered when they no longer pass the visual inspection and/or pressure test.
<b>Transportability</b>	Not applicable
<b>Operational Limitations</b>	There are uses and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified government and industry standards.

<b>Environmental Conditions</b>	Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, “Test Methods for Coated Fabrics,” using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in contact with itself. The test was run at 200 °F (93 °C) and the fabrics were considered non-blocking at that temperature. The low temperature was established by ASTM D 2136, “Standard Test Method for Coated Fabrics—Low Temperature Bend Test.” This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.
<b>Unit Cost</b>	Contact customer service for pricing
<b>Maintenance Cost</b>	Product is designed for limited use
<b>Warranty</b>	It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability, or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.
<b>Don/Doff Information</b>	See instruction manual for instructions on donning and doffing
<b>Use/Reuse</b>	See instruction manual for suggestions on decontamination
<b>Launderability</b>	See instruction manual for suggestions on decontamination
<b>Accessories</b>	Additional accessories that may be purchased include chemtape, kooljacket, Tingley HAZMAT boots, and decon shower
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Some instruction required
<b>Training Available</b>	Training video and Suit Smart CD

<b>Manuals Available</b>	Not applicable
<b>Surveillance Testing Requirements</b>	Visual inspection upon receipt from manufacturer, after each use and/or annually, and before each use
<b>Support Equipment</b>	Appropriate respiratory equipment
<b>Testing Information</b>	See attached permeation guides
<b>Applicable Regulations</b>	OSHA 1910.132 and OSHA 1910.120
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Not applicable

**General**

**Name**

***Kappler Responder® Level B Coverall***

**ID# 144**



**Technology**

Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material

**Stock Number**

41255-8A  
Pictured is 3T428

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall, zipper front, attached respirator hood with elastic, elastic wrists, and ankles

**Availability**

In stock

**Current User(s)**

Emergency HAZMAT teams, fire departments, and law enforcement

**Manufacturer**

Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kappler.com

**Manufacturer Type**

Domestic

**Developer**

Kappler Protective Apparel and Fabrics  
70 Grimes Drive  
Guntersville, AL 35976

**Source**

www.kappler.com

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

HD, GB, GD, L, and VX

**Biological Warfare (BW)  
Agents Protected Against**

Not applicable

**Toxic Industrial (TIMs)  
Protected Against**

Contact Kappler for permeation guides

<b>Duration of Protection</b>	Contact Kappler for permeation guides
<b>Recommended Use(s)</b>	Emergency HAZMAT teams, chemical handling, chemical warfare protection, hazardous wastes, and materials cleanups
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S-XL, 2X, and 3X
<b>Weight</b>	Average packaging weight is 4 lb
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Limited-use patented fabric consisting of multiple barrier films laminated to both sides of a tough substrate material
<b>Construction Type</b>	Taped seam—seam produced when a sewn seam is covered with a strip of compatible material. The strip is attached by heat-sealing as with film laminated materials.
<b>Color</b>	Blue
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Some instruction required
<b>Consumables</b>	Not applicable
<b>Maintenance Requirements</b>	Suits should be stored in a cool dry area away from direct sunlight. Level A garments should have a visual test and be pressure tested according to the ASTM F1052 Air Pressure Test Method upon arrival from manufacture, annually and/or after each use and a quick reinspection before each use.
<b>Shelf Life</b>	Under proper storage conditions, there is no evidence to indicate that the System CPF® film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of “aged” and new Responder® fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to “Training Use Only” be considered when they no longer pass the visual inspection and/or pressure test.
<b>Transportability</b>	Not applicable
<b>Operational Limitations</b>	There are uses and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified government and industry standards.

<b>Environmental Conditions</b>	Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, “Test Methods for Coated Fabrics,” using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in contact with itself. The test was run at 200 °F (93 °C) and the fabrics were considered non-blocking at that temperature. The low temperature was established by ASTM D 2136, “Standard Test Method for Coated Fabrics—Low Temperature Bend Test.” This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.
<b>Unit Cost</b>	Contact customer service for pricing
<b>Maintenance Cost</b>	Product is designed for limited use
<b>Warranty</b>	It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from the use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.
<b>Don/Doff Information</b>	See instruction manual for instructions on donning and doffing
<b>Use/Reuse</b>	See instruction manual for suggestions on decontamination
<b>Laundryability</b>	See instruction manual for suggestions on decontamination
<b>Accessories</b>	Additional accessories that may be purchased include chemtape, kooljacket, Tingley HAZMAT boots, and decon shower
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Some instruction required
<b>Training Available</b>	Training video and Suit Smart CD
<b>Manuals Available</b>	Not applicable



<b>Surveillance Testing Requirements</b>	Visual inspection upon receipt from manufacturer, after each use and/or annually, and before each use
<b>Support Equipment</b>	Appropriate respiratory equipment
<b>Testing Information</b>	See permeation guides
<b>Applicable Regulations</b>	OSHA 1910.132 and OSHA 1910.120
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Not applicable

**General**

**Name**

***Kappler Ensemble, EPA Level A***

**ID# 145**



**Technology**

Impermeable. Aluminized fiberglass is a woven, fire resistant fiberglass fabric, laminated with an aluminized polyester film. Provides excellent protection against radiant and convective heat, if needed.

**Stock Number**

50660 (front entry)  
50661 (rear entry)

**Protection Type**

EPA Level A, Percutaneous

**Equipment Category**

Certified ensemble

**Availability**

Production began 1989

**Current User(s)**

The first 10 National Guard RAID Teams and the USMC CBIRF, MARCORSSYSCOM, POC: Adam Becker, 703-784-5898 (Tel)

**Manufacturer**

Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kappler.com

**Manufacturer Type**

Domestic

**Developer**

Kappler Protective Apparel and Fabrics  
70 Grimes Drive  
Gunterville, AL 35976

**Source**

www.kappler.com

**Certification**

NFPA 1991, 2000 edition (to comply with NFPA 1991.00 edition, must be worn as an ensemble)

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

HD, GB, GD, L, and VX

**Biological Warfare (BW)  
Agents Protected Against**

Not applicable

<b>Toxic Industrial (TIMs) Protected Against</b>	Information in Kappler Permeation Guide
<b>Duration of Protection</b>	6 s to 7 s at 2000 °F
<b>Recommended Use(s)</b>	Not specified

**Physical Parameters**

<b>Sizes Available</b>	S, M, L, XL, 2XL, and 3XL
<b>Weight</b>	9 lb/4.1 kg (shipping weight)
<b>Package Size and Volume</b>	45.9 in <sup>3</sup>
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Impermeable. Aluminized fiberglass is a woven, fire resistant fiberglass fabric, laminated with an aluminized polyester film. Provides excellent protection against radiant and convective heat, if needed.
<b>Construction Type</b>	Double sealed seams
<b>Color</b>	Aluminum overcover. Blue inner suit.

**Logistical Parameters**

<b>Ease of Use</b>	Overcover does not restrict mobility. Wearers can bend, twist, and turn without friction. Is sized to fit comfortably over Responder CSM totally encapsulating suits.
<b>Consumables</b>	Antifog may be necessary to keep the face shield from fogging
<b>Maintenance Requirements</b>	Not applicable
<b>Shelf Life</b>	Under proper storage conditions, there is no evidence to indicate that the System CPF® film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of “aged” and new Responder® fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to “training use only” be considered when they no longer pass the visual inspection and/or pressure test.
<b>Transportability</b>	Not applicable
<b>Operational Limitations</b>	Not specified
<b>Environmental Conditions</b>	Not applicable
<b>Unit Cost</b>	Contact customer service for pricing
<b>Maintenance Cost</b>	Product is designed for limited use
<b>Warranty</b>	Standard warranty is for a period of 90 d
<b>Don/DoFF Information</b>	See instruction manual for instructions on donning and doffing

<b>Use/Reuse</b>	See instruction manual for instructions on donning and doffing
<b>Launderability</b>	Decontamination procedures should be initiated and supervised by a qualified safety professional as quickly as possible on a suit that has been exposed to toxic chemical substances. Overcovers are not designed for multiple washing and decontamination.
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	4 h
<b>Training Available</b>	Training video and Suit Smart CD
<b>Manuals Available</b>	One instruction manual is included with each suit shipped
<b>Surveillance Testing Requirements</b>	Visual inspection and pressure test required before and after use, or as often as necessary as deemed by wearer or supervisors. Every six months when in extended storage.
<b>Support Equipment</b>	None
<b>Testing Information</b>	Material data sheet available
<b>Applicable Regulations</b>	None. However, each individual Government user has developed their own internal guidance regarding these issues.
<b>Health Hazards</b>	There is no potential health hazard associated with the possession, use, or storage of Aluminized Flash Fire Overcovers
<b>Communications Interface Capability</b>	Not specified
<b>EOD Compatibility</b>	Not specified

**General**

**Name**

***Kappler CPF 4 Coverall***

**ID# 146**



**Technology**

Multi-film composite laminated to a high strength 2.3 oz polypropylene substrate

**Stock Number**

No boots: 4T438

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front, attached hood with elastic around face, elastic wrists, ankles, and sock boots to be worn inside regular work boots

**Availability**

In stock

**Current User(s)**

REC's Customers:  
EPA; Department of State Consequence Management and Diplomatic Security Division; State of NY; NYC Police; City of Mobile, AL; Department of Justice Center for Domestic Preparedness; FBI; Wisconsin Office of Emergency Management; DOD; and Indiana Office of State Fire Marshall; Jefferson County, MO.

**Manufacturer**

Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kappler.com

**Manufacturer Type**

Domestic

**Developer**

Kappler Protective Apparel and Fabrics  
70 Grimes Drive  
Guntersville, AL 35976

**Source**

www.kappler.com

**Certification**

None

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

None

<b>Biological Warfare (BW) Agents Protected Against</b>	Not applicable
<b>Toxic Industrial (TIMs) Protected Against</b>	Carbon disulfide, sulfuric acid, ammonia, chlorine, hydrogen chloride, and ethylene oxide
<b>Duration of Protection</b>	>480 min
<b>Recommended Use(s)</b>	Kappler recommends that CPF 4 be used in chemical applications where the risk of coming in contact with chemical is high splash
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through 3XL
<b>Weight</b>	4T438: 17 lb
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Multi-layer barrier film laminated to a 2.3 oz polypropylene substrate
<b>Construction Type</b>	Strapped seams
<b>Color</b>	Green
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Some instruction required
<b>Consumables</b>	Not applicable
<b>Maintenance Requirements</b>	Suits should be stored in a cool dry area away from direct sunlight. Level A garments should have a visual test and be pressure tested according to the ASTM F1052 Air Pressure Test Method upon arrival from manufacture, annually and/or after each use and a quick re-inspection before each use.
<b>Shelf Life</b>	Under proper storage conditions, there is no evidence to indicate that the System CPF® film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of “aged” and new Responder® fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to “training use only” be considered when they no longer pass the visual inspection and/or pressure test.
<b>Transportability</b>	Not applicable
<b>Operational Limitations</b>	Temperature service range: -85 °F to 200 °F

**Environmental Conditions**

Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, “Test Methods for Coated Fabrics,” using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in contact with itself. The test was run at 200 °F (93 °C) and the fabrics were considered non-blocking at that temperature. The low temperature was established by ASTM D 2136, “Standard Test Method for Coated Fabrics—Low Temperature Bend Test.” This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.

**Unit Cost**

Contact customer service for pricing

**Maintenance Cost**

Product is designed for limited use

**Warranty**

It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.

**Don/Doff Information**

See instruction manual for instructions on donning and doffing

**Use/Reuse**

It is completely up to the discretion of the person wearing the suit. Kappler considers CPF 4 a limited use suit, and reuse is based on both an evaluation of the physical state of the garment and also the level and type of chemical exposure.

**Launderability**

See instruction manual for instructions on donning and doffing

**Accessories**

Additional accessories that may be purchased include chemtape, kooljacket, Tingley HAZMAT boots, and decon shower

**Special Requirements**

<b>Training Requirements</b>	Some instruction required
<b>Training Available</b>	Training video available
<b>Manuals Available</b>	Instruction manual available
<b>Surveillance Testing Requirements</b>	Visual inspections upon receipt from manufacturer, after each use, and before the next use
<b>Support Equipment</b>	Appropriate respiratory equipment
<b>Testing Information</b>	ASTM D751 Test Battery
<b>Applicable Regulations</b>	OSHA 1910.132 and OSHA 1910.120
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Not applicable



**General**

**Name**

***Kappler CPF 3 Coverall***

**ID# 147**

Picture Not Available

**Technology**

Multi-layer barrier film laminated to a durable 2.0 oz polypropylene substrate. Provides protection in rigorous activities and where there is potential for chemical splash.

**Stock Number**

No elastic: 3T412  
Elastic: 3T417

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front and collar. No elastic/elastic wrists, and ankles.

**Availability**

In stock

**Current User(s)**

Emergency HAZMAT teams, fire departments, and law enforcement

**Manufacturer**

Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kappler.com

**Manufacturer Type**

Domestic

**Developer**

Kappler Protective Apparel and Fabrics  
70 Grimes Drive  
Guntersville, AL 35976

**Source**

www.kappler.com

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

HD, GB, GD, and VX

**Biological Warfare (BW)  
Agents Protected Against**

Not applicable

**Toxic Industrial (TIMs)  
Protected Against**

Contact Kappler for permeation guides

**Duration of Protection**

Contact Kappler for permeation guides

**Recommended Use(s)**

Emergency HAZMAT teams, chemical handling, chemical warfare protection, hazardous wastes, and materials cleanups

## Physical Parameters

<b>Sizes Available</b>	S-XL, 2X, and 3X
<b>Weight</b>	Average packaging weight is 10 lb per case of six
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Multi-layer barrier film laminated to a durable 2.0 oz polypropylene substrate. Greater physical strength and chemical holdout protection when compared to other film products. Provides protection in rigorous activities and where there is potential for chemical splash.
<b>Construction Type</b>	Taped seam—seam produced when a sewn seam is covered with a strip of compatible material. The strip is attached by heat-sealing as with film laminated materials.
<b>Color</b>	Tan

## Logistical Parameters

<b>Ease of Use</b>	Some instruction required
<b>Consumables</b>	Not applicable
<b>Maintenance Requirements</b>	Suits should be stored in a cool dry area away from direct sunlight. Garments should have a visual test upon arrival from manufacture, annually and/or after each use and a quick reinspection before each use.
<b>Shelf Life</b>	Under proper storage conditions, there is no evidence to indicate that the System CPF® film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of “aged” and new Responder® fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to “training use only” be considered when they no longer pass the visual inspection and/or pressure test.
<b>Transportability</b>	Not applicable
<b>Operational Limitations</b>	There are uses and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified government and industry standards.
<b>Environmental Conditions</b>	Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, “Test Methods for Coated Fabrics,” using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in contact with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, “Standard Test Method

for Coated Fabrics—Low Temperature Bend Test.” This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.

<b>Unit Cost</b>	Contact customer service for pricing
<b>Maintenance Cost</b>	Product is designed for limited use
<b>Warranty</b>	It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.
<b>Don/Dooff Information</b>	See instruction manual for donning and doffing instructions
<b>Use/Reuse</b>	See instruction manual for suggestions on decontamination
<b>Laundryability</b>	See instruction manual for suggestions on decontamination
<b>Accessories</b>	Additional accessories that may be purchased include chemtape, kooljacket, Tingley HAZMAT boots, and decon shower
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Some instruction required
<b>Training Available</b>	Training video and Suit Smart CD
<b>Manuals Available</b>	Not applicable
<b>Surveillance Testing Requirements</b>	Visual inspections upon receipt from manufacture, after each use and/or annually, before each use
<b>Support Equipment</b>	Appropriate respiratory equipment
<b>Testing Information</b>	See permeation guides
<b>Applicable Regulations</b>	OSHA 1910.132 and OSHA 1910.120

<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Not applicable

**General**

**Name**

***Kappler CPF 4 Coverall***

**ID# 148**

Picture Not Available

**Technology**

Multi-film composite laminated to a high strength 2.3 oz polypropylene substrate

**Stock Number**

No elastic: 4T412  
Elastic: 4T417

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front and collar. No elastic/elastic wrists, and ankles.

**Availability**

In stock

**Current User(s)**

REC's Customers:  
EPA; Department of State Consequence Management and Diplomatic Security Division; State of NY; NYC Police; City of Mobile, AL; Department of Justice Center for Domestic Preparedness; FBI; Wisconsin Office of Emergency Management; DOD; and Indiana Office of State Fire Marshall; Jefferson County, MO.

**Manufacturer**

Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kappler.com

**Manufacturer Type**

Domestic

**Developer**

Kappler Protective Apparel and Fabrics  
70 Grimes Drive  
Gunterville, AL 35976

**Source**

www.kappler.com

**Certification**

None

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

None

**Biological Warfare (BW)  
Agents Protected Against**

Not applicable

**Toxic Industrial (TIMs)  
Protected Against  
Duration of Protection**

Carbon disulfide, sulfuric acid, ammonia, chlorine, hydrogen chloride, and ethylene oxide  
>480 min

**Recommended Use(s)** Kappler recommends that CPF 4 be used in chemical applications where the risk of coming in contact with chemical is high splash

**Physical Parameters**

**Sizes Available** S through 3XL

**Weight** 15 lb/10 kg, six per case

**Package Size and Volume** Not specified

**Power Requirements** Not applicable

**Material Type** Multi-layer barrier film laminated to a 2.3 oz polypropylene substrate

**Construction Type** Strapped seams

**Color** Green

**Logistical Parameters**

**Ease of Use** Some instruction required

**Consumables** Not applicable

**Maintenance Requirements** Suits should be stored in a cool dry area away from direct sunlight. Level A garments should have a visual test and be pressure tested according to the ASTM F1052 Air Pressure Test Method upon arrival from manufacture, annually and/or after each use and a quick reinspection before each use.

**Shelf Life** Under proper storage conditions, there is no evidence to indicate that the System CPF® film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of “aged” and new Responder® fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to “training use only” be considered when they no longer pass the visual inspection and/or pressure test.

**Transportability** Not applicable

**Operational Limitations** Temperature service range: -85 °F to 200 °F

**Environmental Conditions** Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, “Test Methods for Coated Fabrics,” using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in contact with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, “Standard Test Method for Coated Fabrics—Low Temperature Bend Test.” This test subjects the fabric material to a predetermined low temperature for a period of time

while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.

<b>Unit Cost</b>	Contact customer service for pricing
<b>Maintenance Cost</b>	Product is designed for limited use
<b>Warranty</b>	It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from the use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.
<b>Don/Doff Information</b>	See instruction manual for instructions on donning and doffing
<b>Use/Reuse</b>	It is completely up to the discretion of the person wearing the suit. Kappler considers CPF 4 a limited use suit, and reuse is based on both an evaluation of the physical state of the garment and also the level and type of chemical exposure.
<b>Laundryability</b>	See instruction manual for instructions on donning and doffing
<b>Accessories</b>	Additional accessories that may be purchased include chemtape, kooljacket, Tingley HAZMAT boot, and decon shower
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Some instruction required
<b>Training Available</b>	Training video available
<b>Manuals Available</b>	Instruction manual available
<b>Surveillance Testing Requirements</b>	Visual inspections upon receipt from manufacturer, after each use, and before the next use
<b>Support Equipment</b>	Appropriate respiratory equipment
<b>Testing Information</b>	ASTM D751 Test Battery
<b>Applicable Regulations</b>	OSHA 1910.132 and OSHA 1910.120

<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Not applicable



**General**

**Name**

***Kappler CPF 3 Coverall***

**ID# 149**



**Technology**

Multi-layer barrier film laminated to a durable 2.0 oz polypropylene substrate. Provides protection in rigorous activities and where there is potential for chemical splash.

**Stock Number**

Overboots: 3T414  
Elastic ankles: 3T428

**Protection Type**

Percutaneous

**Equipment Category**

Coverall; zipper front and attached hood. Elastic around hood and wrists. Overboots/no overboots with elastic ankles.

**Availability**

In stock

**Current User(s)**

Emergency HAZMAT teams, fire departments, and law enforcement

**Manufacturer**

Kappler Safety Group  
70 Grimes Drive  
Guntersville, AL 35976  
www.kappler.com  
POC: Kendra Barclay  
256-505-4000 (Tel)  
256-582-1163 (Fax)  
email: kbarclay@kappler.com

**Manufacturer Type**

Domestic

**Developer**

Kappler Protective Apparel and Fabrics  
70 Grimes Drive  
Gunterville, AL 35976

**Source**

www.kappler.com

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

HD, GB, GD, and VX

**Biological Warfare (BW)  
Agents Protected Against**

Not applicable

**Toxic Industrial (TIMs)  
Protected Against**

Contact Kappler for permeation guides

**Duration of Protection**

Contact Kappler for permeation guides

**Recommended Use(s)**

Emergency HAZMAT teams, chemical handling, chemical warfare protection, hazardous wastes, and materials cleanups

**Physical Parameters**

**Sizes Available**

S-XL, 2X, and 3X

**Weight**

Average packaging weight is 10 lb per case of six

**Package Size and Volume**

Not specified

**Power Requirements**

Not applicable

**Material Type**

Multi-layer barrier film laminated to a durable 2.0 oz polypropylene substrate. Greater physical strength and chemical holdout protection when compared to other film products. Provides protection in rigorous activities and where there is potential for chemical splash.

**Construction Type**

Taped seam—seam produced when a sewn seam is covered with a strip of compatible material. The strip is attached by heat-sealing as with film laminated materials.

**Color**

Tan

**Logistical Parameters**

**Ease of Use**

Some instruction required

**Consumables**

Not applicable

**Maintenance Requirements**

Suits should be stored in a cool dry area away from direct sunlight. Garments should have a visual test upon arrival from manufacture, annually and/or after each use and a quick reinspection before each use.

**Shelf Life**

Under proper storage conditions, there is no evidence to indicate that the System CPF® film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of “aged” and new Responder® fabric. Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. Based on the physical condition of the suit, it is recommended that downgrading suits to “training use only” be considered when they no longer pass the visual inspection and/or pressure test.

**Transportability**

Not applicable

**Operational Limitations**

There are uses and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified government and industry standards.

**Environmental Conditions**

Protective clothing is used under a variety of conditions. Garments can be exposed to a range of ambient temperatures as well as variations in the temperatures of the challenge chemical. The temperature service range for Responder and CPF 1–4 fabrics was established by performing tests at high and low temperatures. The high temperature was established by ASTM D751, “Test Methods for Coated Fabrics,” using the high temperature blocking test. In this test, the sample fabric material is subjected to the predetermined temperature for a period of time while the fabric is placed in contact with itself. The test was run at 200 °F (93 °C) and the fabrics were considered nonblocking at that temperature. The low temperature was established by ASTM D 2136, “Standard Test Method for Coated Fabrics—Low Temperature Bend Test.” This test subjects the fabric material to a predetermined low temperature for a period of time while the material is flexed in a 60° bend. The sample is then examined visually for signs of cracking or other damage. The test was run at -85 °F (-65 °C) and the fabrics showed no signs of damage.

**Unit Cost**

Contact customer service for pricing

**Maintenance Cost**

Product is designed for limited use

**Warranty**

It is the responsibility of the user to select suits which are appropriate for each intended use and which meet all health standards. Kappler is available for consultation on any proposed use. Purchaser and all suit users shall promptly notify Kappler of any claim, whether based on contract, negligence, strict liability or otherwise. The sole and exclusive remedy of the purchaser and all users and the limit of liability of Kappler for any and all losses, injuries or damages resulting from the use of a Kappler product shall be the refund of the purchase price or the replacement or repair of product found to be defective within 90 d after the product is delivered. In no event shall Kappler be liable for any special, incidental or consequential damages, whether in contract or in tort, arising out of any warranties, representations, instructions or defects from any cause in connection with the Kappler products, or the sale thereof. The purchaser and the users are deemed to have accepted the terms of this limitation of warranty and liability, which terms may not be varied by any verbal or written agreement. Purchaser and all users are responsible for inspection and proper care of this product as described in this manual and are responsible for all loss or damage from use or handling that results from conditions beyond the control of the manufacturer.

**Don/Doff Information**

See instruction manual for donning and doffing instructions

**Use/Reuse**

See instruction manual for suggestions on decontamination

**Launderability**

See instruction manual for suggestions on decontamination

**Accessories**

Additional accessories that may be purchased include chemtape, kooljacket, Tingley HAZMAT boots, and decon shower

**Special Requirements**

**Training Requirements**

Some instruction required

**Training Available**

Training video and Suit Smart CD

<b>Manuals Available</b>	Not applicable
<b>Surveillance Testing Requirements</b>	Visual inspections upon receipt from manufacture, after each use and/or annually, before each use
<b>Support Equipment</b>	Appropriate respiratory equipment
<b>Testing Information</b>	See permeation guides
<b>Applicable Regulations</b>	OSHA 1910.132 and OSHA 1910.120
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Not applicable

**General**

**Name**

***Lakeland Tychem® 10000 Level B Coverall***

**ID# 150**



**Technology**

Particle separation

**Stock Number**

10100 Tychem® 10000  
TK100 Tychem® TK

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (collar, open wrists, and ankles)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Protects against all biological toxins and pathogens

**Toxic Industrial (TIMs)  
Protected Against**

Excellent protection against a wide variety of TIMs

**Duration of Protection**

Minimum of 8 h

<b>Recommended Use(s)</b>	Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through 5X
<b>Weight</b>	15 lb per case, three in a case
<b>Package Size and Volume</b>	16 in L x 11 in W x 13 in H
<b>Power Requirements</b>	None
<b>Material Type</b>	Garment is selectively permeable
<b>Construction Type</b>	Seam sewn and the heat-sealed with tape
<b>Color</b>	Lime-green
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	After 5 yr, recommended to use only for training
<b>Transportability</b>	No support equipment required for transportation
<b>Operational Limitations</b>	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
<b>Environmental Conditions</b>	Operational temperature range of Tychem 10000 material is -25 °F to 225 °F
<b>Unit Cost</b>	Not applicable—cost to be determined by distributors
<b>Maintenance Cost</b>	Not applicable
<b>Warranty</b>	90 d
<b>Don/Doff Information</b>	Not specified
<b>Use/Reuse</b>	Limited use
<b>Launderability</b>	Suits are not launderable
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Not specified
<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available
<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears

<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

***Lakeland Tychem® 10000 Level B Coverall***

**ID# 151**



**Technology**

Particle separation

**Stock Number**

10110 Tychem® 10000  
TK110 Tychem® TK

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (collar, elastic wrists, and ankles)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Protects against all biological toxins and pathogens

**Toxic Industrial (TIMs)  
Protected Against**

Excellent protection against a wide variety of TIMs

**Duration of Protection**

Minimum of 8 h



<b>Recommended Use(s)</b>	Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through 5X
<b>Weight</b>	15 lb per case, three in a case
<b>Package Size and Volume</b>	16 in L x 11 in W x 13 in H
<b>Power Requirements</b>	None
<b>Material Type</b>	Garment is selectively permeable
<b>Construction Type</b>	Seam sewn and the heat-sealed with tape
<b>Color</b>	Lime-green
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	After 5 yr, recommended to use only for training
<b>Transportability</b>	No support equipment required for transportation
<b>Operational Limitations</b>	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
<b>Environmental Conditions</b>	Operational temperature range of Tychem 10000 material is -25 °F to 225 °F
<b>Unit Cost</b>	Not applicable—cost to be determined by distributors
<b>Maintenance Cost</b>	Not applicable
<b>Warranty</b>	90 d
<b>Don/Doff Information</b>	Not specified
<b>Use/Reuse</b>	Limited use
<b>Laundryability</b>	Suits are not launderable
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Not specified
<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available

<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

***Lakeland Tychem® 10000 Level B Coverall***

**ID# 152**



**Technology**

Particle separation

**Stock Number**

10120 Tychem® 10000  
TK120 Tychem® TK

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (hood, elastic face, open wrists, and ankles)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Protects against all biological toxins and pathogens

**Toxic Industrial (TIMs)  
Protected Against**

Excellent protection against a wide variety of TIMs

**Duration of Protection**

Minimum of 8 h

**Recommended Use(s)** Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments

**Physical Parameters**

**Sizes Available** S through 5X  
**Weight** 15 lb per case, three in a case  
**Package Size and Volume** 16 in L x 11 in W x 13 in H  
**Power Requirements** None  
**Material Type** Garment is selectively permeable  
**Construction Type** Seam sewn and the heat-sealed with tape  
**Color** Lime-green

**Logistical Parameters**

**Ease of Use** Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC  
**Consumables** None  
**Maintenance Requirements** Not specified  
**Shelf Life** After 5 yr, recommended to use only for training  
**Transportability** No support equipment required for transportation  
**Operational Limitations** Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.  
**Environmental Conditions** Operational temperature range of Tychem 10000 material is -25 °F to 225 °F  
**Unit Cost** Not applicable—cost to be determined by distributors  
**Maintenance Cost** Not applicable  
**Warranty** 90 d  
**Don/Doff Information** Not specified  
**Use/Reuse** Limited use  
**Launderability** Suits are not launderable  
**Accessories** None

**Special Requirements**

**Training Requirements** Not specified  
**Training Available** Available through regional sales representation  
**Manuals Available** User manual and permeation guide available

<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

***Lakeland Tychem® 10000 Level B Coverall***

**ID# 153**



**Technology**

Particle separation

**Stock Number**

10130 Tychem® 10000  
TK130 Tychem® TK

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (hood, elastic wrists, and ankles)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GB and VX); blister agents (HD and L). Questions call Lakeland Customer Service at 800-645-9291.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

A broad range of liquid chemicals. Questions call Lakeland Customer Service at 800-645-9291.

<b>Duration of Protection</b>	Fabric test data: Average breakthrough time VX: Greater than 12 h at 10 g/m <sup>2</sup> GB and L: Greater than 6 h at 10 g/m <sup>2</sup> D: Greater than 3 h at 10 g/m <sup>2</sup> Questions call Lakeland Customer Service at 800-645-9291
<b>Recommended Use(s)</b>	Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments

**Physical Parameters**

<b>Sizes Available</b>	S through 5X
<b>Weight</b>	15 lb
<b>Package Size and Volume</b>	16 in L x 11 in W x 13 in H
<b>Power Requirements</b>	None
<b>Material Type</b>	Garment is selectively permeable
<b>Construction Type</b>	Seam sewn and the heat-sealed with tape
<b>Color</b>	Lime-green

**Logistical Parameters**

<b>Ease of Use</b>	Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	After 5 yr, recommended to use only for training
<b>Transportability</b>	No support equipment required for transportation
<b>Operational Limitations</b>	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
<b>Environmental Conditions</b>	Operational temperature range of Tychem 10000 material is -25 °F to 225 °F
<b>Unit Cost</b>	Not applicable—cost to be determined by distributors
<b>Maintenance Cost</b>	Not applicable
<b>Warranty</b>	90 d
<b>Don/Doff Information</b>	Not specified
<b>Use/Reuse</b>	Limited use
<b>Launderability</b>	Suits are not launderable
<b>Accessories</b>	None

**Special Requirements**

<b>Training Requirements</b>	Not specified
<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available
<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes



**General**

**Name**

***Lakeland Tychem® 10000 Level B Coverall***

**ID# 154**



**Technology**

Particle separation

**Stock Number**

10140 Tychem® 10000  
TK140 Tychem® TK

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (hood, elastic face, open wrists, and boots)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
Carl Brown (Technical Product Specialist)  
Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Protects against all biological toxins and pathogens

**Toxic Industrial (TIMs)  
Protected Against**

Excellent protection against a wide variety of TIMs

**Duration of Protection**

Minimum of 8 h

<b>Recommended Use(s)</b>	Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through 5X
<b>Weight</b>	16 lb per case, three in a case
<b>Package Size and Volume</b>	16 in L x 11 in W x 13 in H
<b>Power Requirements</b>	None
<b>Material Type</b>	Garment is selectively permeable
<b>Construction Type</b>	Seam sewn and the heat-sealed with tape
<b>Color</b>	Lime-green
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	After 5 yr, recommended to use only for training
<b>Transportability</b>	No support equipment required for transportation
<b>Operational Limitations</b>	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
<b>Environmental Conditions</b>	Operational temperature range of Tychem 10000 material is -25 °F to 225 °F
<b>Unit Cost</b>	Not applicable—cost to be determined by distributors
<b>Maintenance Cost</b>	Not applicable
<b>Warranty</b>	90 d
<b>Don/Doff Information</b>	Not specified
<b>Use/Reuse</b>	Limited use
<b>Launderability</b>	Suits are not launderable
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Not specified
<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available

<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

**Lakeland Tychem® 10000 Level B Coverall**

**ID# 155**



**Technology**

Particle separation

**Stock Number**

10150 Tychem® 10000  
TK150 Tychem® TK

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (hood, elastic face, elastic wrists, and boots)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Protects against all biological toxins and pathogens

**Toxic Industrial (TIMs)  
Protected Against**

Excellent protection against a wide variety of TIMs

**Duration of Protection**

Minimum of 8 h

**Recommended Use(s)** Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments

**Physical Parameters**

**Sizes Available** S through 5X

**Weight** 16 lb per case, three in a case

**Package Size and Volume** 16 in L x 11 in W x 13 in H

**Power Requirements** None

**Material Type** Garment is selectively permeable

**Construction Type** Seam sewn and the heat-sealed with tape

**Color** Lime-green

**Logistical Parameters**

**Ease of Use** Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC

**Consumables** None

**Maintenance Requirements** Not specified

**Shelf Life** After 5 yr, recommended to use only for training

**Transportability** No support equipment required for transportation

**Operational Limitations** Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.

**Environmental Conditions** Operational temperature range of Tychem 10000 material is -25 °F to 225 °F

**Unit Cost** Not applicable—cost to be determined by distributors

**Maintenance Cost** Not applicable

**Warranty** 90 d

**Don/Doff Information** Not specified

**Use/Reuse** Limited use

**Launderability** Suits are not launderable

**Accessories** None

**Special Requirements**

**Training Requirements** Not specified

**Training Available** Available through regional sales representation

**Manuals Available** User manual and permeation guide available

<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

***Lakeland Tychem® 10000 Level B Coverall***

**ID# 156**



**Technology**

Particle separation

**Stock Number**

10160 Tychem® 10000  
TK160 Tychem® TK

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (hood, elastic face, elastic wrists, and boots with boot flaps)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L). For specific test results, call the DuPont Protective Apparel Fax-on-Demand Service at 800-558-9329 and request Document 595.

**Biological Warfare (BW)  
Agents Protected Against**

Protects against all biological toxins and pathogens

**Toxic Industrial (TIMs)  
Protected Against**

Excellent protection against a wide variety of TIMs

**Duration of Protection**

Minimum of 8 h

**Recommended Use(s)** Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments

**Physical Parameters**

**Sizes Available** S through 5X  
**Weight** 16 lb per case, three in a case  
**Package Size and Volume** 16 in L x 11 in W x 13 in H  
**Power Requirements** None  
**Material Type** Garment is selectively permeable  
**Construction Type** Seam sewn and the heat-sealed with tape  
**Color** Lime-green

**Logistical Parameters**

**Ease of Use** Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC  
**Consumables** None  
**Maintenance Requirements** Not specified  
**Shelf Life** After 5 yr, recommended to use only for training  
**Transportability** No support equipment required for transportation  
**Operational Limitations** Off the shelf cooling systems are available. Operational limitations to be decided by safety manager  
**Environmental Conditions** Operational temperature range of Tychem 10000 material is -25 °F to 225 °F  
**Unit Cost** Not applicable—cost to be determined by distributors  
**Maintenance Cost** Not applicable  
**Warranty** 90 d  
**Don/Doff Information** Not specified  
**Use/Reuse** Limited use  
**Launderability** Suits are not launderable  
**Accessories** None

**Special Requirements**

**Training Requirements** Not specified  
**Training Available** Available through regional sales representation  
**Manuals Available** User manual and permeation guide available



<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

## General

**Name**

*Lakeland Tychem® 10000 Level B Coverall*

**ID# 157**



**Technology**

Particle separation

**Stock Number**

10165 Tychem® 10000  
TK165 Tychem® TK

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (respirator-fit hood, elastic wrists, double storm flap, and boots with boot flaps)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

## Operational Parameters

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GB and VX); blister agents (HD and L). Questions call Lakeland Customer Service at 800-645-9291.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

A broad range of liquid chemicals. Questions call Lakeland Customer Service at 800-645-9291.

**Duration of Protection**

Fabric test data: Average breakthrough time  
VX: Greater than 12 h at 10 g/m<sup>2</sup>  
GBand L: Greater than 6 h at 10 g/m<sup>2</sup>  
D: Greater than 3 h at 10 g/m<sup>2</sup>  
Questions call Lakeland Customer Service at 800-645-9291

**Recommended Use(s)**

Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments

**Physical Parameters****Sizes Available**

S through 5X

**Weight**

16 lb

**Package Size and Volume**

16 in L x 11 in W x 13 in H

**Power Requirements**

None

**Material Type**

Garment is selectively permeable

**Construction Type**

Seam sewn and the heat-sealed with tape

**Color**

Lime-green

**Logistical Parameters****Ease of Use**

Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC

**Consumables**

None

**Maintenance Requirements**

Tested and inspected after every use

**Shelf Life**

After 5 yr, recommended to use only for training

**Transportability**

No support equipment required for transportation

**Operational Limitations**

Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.

**Environmental Conditions**

Operational temperature range of Tychem 10000 material is -25 °F to 225 °F

**Unit Cost**

Not applicable—cost to be determined by distributors

**Maintenance Cost**

Not specified

**Warranty**

90 d

**Don/Doff Information**

Not specified

**Use/Reuse**

Limited use

**Launderability**

Suits are not launderable

**Accessories**

Not specified

**Special Requirements**

<b>Training Requirements</b>	Not specified
<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available
<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	Not specified
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

*Lakeland Tyvek® QC Level B Coverall*

**ID# 158**



**Technology**

Particle separation

**Stock Number**

70100

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (collar, open wrists, and ankles)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Not tested

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

Many inorganic acids, bases, and other liquid chemicals such as pesticides. Questions call Lakeland Customer Service at 800-645-9291.

**Duration of Protection** For specific TIMs data, contact Lakeland Customer Service at 800-645-9291.

**Recommended Use(s)** Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments

**Physical Parameters**

**Sizes Available** S through 5X

**Weight** 6 lb per case, six in a case

**Package Size and Volume** Not specified

**Power Requirements** None

**Material Type** Garment is selectively permeable

**Construction Type** Sealed seam

**Color** Yellow or grey

**Logistical Parameters**

**Ease of Use** Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC

**Consumables** None

**Maintenance Requirements** Not specified

**Shelf Life** After 5 yr, recommended to use only for training

**Transportability** No support equipment required for transportation

**Operational Limitations** Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.

**Environmental Conditions** Designed to be worn in common outdoor conditions

**Unit Cost** Not applicable—cost to be determined by distributors

**Maintenance Cost** Not applicable

**Warranty** 90 d

**Don/Dooff Information** Not specified

**Use/Reuse** Limited use

**Launderability** Suits are not launderable

**Accessories** None

**Special Requirements**

**Training Requirements** None

**Training Available** Available through regional sales representation

**Manuals Available** User manual and permeation guide available

<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

***Lakeland Tyvek QC Level B Coverall***

**ID# 159**



**Technology**

Particle separation

**Stock Number**

70110

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (collar, elastic wrists, and ankles)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Not tested

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

Many inorganic acids, bases, and other liquid chemicals such as pesticides. Questions call Lakeland Customer Service at 800-645-9291.

**Duration of Protection**

For specific TIMs data, contact Lakeland Customer Service at 800-645-9291



<b>Recommended Use(s)</b>	Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through 5X
<b>Weight</b>	6 lb per case, six in a case
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	None
<b>Material Type</b>	Garment is selectively permeable
<b>Construction Type</b>	Sealed seam
<b>Color</b>	Yellow or grey
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	After 5 yr, recommended to use only for training
<b>Transportability</b>	No support equipment required for transportation
<b>Operational Limitations</b>	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
<b>Environmental Conditions</b>	Designed to be worn in common outdoor conditions
<b>Unit Cost</b>	Not applicable—cost to be determined by distributors
<b>Maintenance Cost</b>	Not applicable
<b>Warranty</b>	90 d
<b>Don/Doff Information</b>	Not specified
<b>Use/Reuse</b>	Limited use
<b>Launderability</b>	Suits are not launderable
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	None
<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available

<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

**Lakeland Tyvek® QC Level B Coverall**

**ID# 160**



**Technology**

Particle separation

**Stock Number**

70120

**Protection Type**

Level B, Percutaneous and respiratory

**Equipment Category**

Level B, coverall (hood, elastic face, open wrists, and ankles)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Not tested

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

Many inorganic acids, bases, and other liquid chemicals such as pesticides. Questions call Lakeland Customer Service at 800-645-9291.

**Duration of Protection**

For specific TIMs data, contact Lakeland Customer Service at 800-645-9291

<b>Recommended Use(s)</b>	Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through 5X
<b>Weight</b>	7 lb per case, six in a case
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	None
<b>Material Type</b>	Garment is selectively permeable
<b>Construction Type</b>	Sealed seam
<b>Color</b>	Yellow or grey
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	After 5 yr, recommended to use only for training
<b>Transportability</b>	No support equipment required for transportation
<b>Operational Limitations</b>	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
<b>Environmental Conditions</b>	Designed to be worn in common outdoor conditions
<b>Unit Cost</b>	Not applicable—cost to be determined by distributors
<b>Maintenance Cost</b>	Not applicable
<b>Warranty</b>	90 d
<b>Don/Doff Information</b>	Not specified
<b>Use/Reuse</b>	Limited use
<b>Launderability</b>	Suits are not launderable
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	None
<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available

<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

*Lakeland Tyvek® QC Level B Coverall*

**ID# 161**



**Technology**

Particle separation

**Stock Number**

70130

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (hood, elastic face, wrists, and ankles)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Not tested

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

Many inorganic acids, bases, and other liquid chemicals such as pesticides. Questions call Lakeland Customer Service at 800-645-9291.

**Duration of Protection**

For specific TIMs data, contact Lakeland Customer Service at 800-645-9291

<b>Recommended Use(s)</b>	Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through 5X
<b>Weight</b>	7 lb per case, six in a case
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	None
<b>Material Type</b>	Garment is selectively permeable
<b>Construction Type</b>	Sealed seam
<b>Color</b>	Yellow or grey
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	After 5 yr, recommended to use only for training
<b>Transportability</b>	No support equipment required for transportation
<b>Operational Limitations</b>	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
<b>Environmental Conditions</b>	Designed to be worn in common outdoor conditions
<b>Unit Cost</b>	Not applicable—cost to be determined by distributors
<b>Maintenance Cost</b>	Not applicable
<b>Warranty</b>	90 d
<b>Don/Doff Information</b>	Not specified
<b>Use/Reuse</b>	Limited use
<b>Launderability</b>	Suits are not launderable
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	None
<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available

<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes



**General**

**Name**

*Lakeland Tyvek® QC Level B Coverall*

**ID# 162**



**Technology**

Particle separation

**Stock Number**

70140

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (hood, elastic face, open wrists, and boots)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Not tested

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

Many inorganic acids, bases, and other liquid chemicals such as pesticides. Questions call Lakeland Customer Service at 800-645-9291.

**Duration of Protection** For specific TIMs data, contact Lakeland Customer Service at 800-645-9291

**Recommended Use(s)** Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments

**Physical Parameters**

**Sizes Available** S through 5X

**Weight** 8 lb per case, six in a case

**Package Size and Volume** Not specified

**Power Requirements** None

**Material Type** Garment is selectively permeable

**Construction Type** Sealed seam

**Color** Yellow or grey

**Logistical Parameters**

**Ease of Use** Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC

**Consumables** None

**Maintenance Requirements** Not specified

**Shelf Life** After 5 yr, recommended to use only for training

**Transportability** No support equipment required for transportation

**Operational Limitations** Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.

**Environmental Conditions** Designed to be worn in common outdoor conditions

**Unit Cost** Not applicable—cost to be determined by distributors

**Maintenance Cost** Not applicable

**Warranty** 90 d

**Don/Doff Information** Not specified

**Use/Reuse** Limited use

**Launderability** Suits are not launderable

**Accessories** None

**Special Requirements**

**Training Requirements** None

**Training Available** Available through regional sales representation

<b>Manuals Available</b>	User manual and permeation guide available
<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

**Lakeland Tyvek® QC Level B Coverall**

**ID# 163**



**Technology**

Particle separation

**Stock Number**

70150

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (hood, elastic face, elastic wrists, and boots)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Not tested

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

Many inorganic acids, bases, and other liquid chemicals such as pesticides. Questions call Lakeland Customer Service at 800-645-9291.

**Duration of Protection**

For specific TIMs data, contact Lakeland Customer Service at 800-645-9291

<b>Recommended Use(s)</b>	Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through 5X
<b>Weight</b>	8 lb per case, six in a case
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	None
<b>Material Type</b>	Garment is selectively permeable
<b>Construction Type</b>	Sealed seam
<b>Color</b>	Yellow or grey
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	After 5 yr, recommended to use only for training
<b>Transportability</b>	No support equipment required for transportation
<b>Operational Limitations</b>	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
<b>Environmental Conditions</b>	Designed to be worn in common outdoor conditions
<b>Unit Cost</b>	Not applicable—cost to be determined by distributors
<b>Maintenance Cost</b>	Not applicable
<b>Warranty</b>	90 d
<b>Don/DoFF Information</b>	Not specified
<b>Use/Reuse</b>	Limited use
<b>Launderability</b>	Suits are not launderable
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	None
<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available
<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears

<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

**Lakeland Tychem® SL Level B Coverall**

**ID# 164**



**Technology**

Particle separation

**Stock Number**

72110

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (collar, elastic wrists, and ankles)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GB and VX); blister agents (HD and L). Questions call Lakeland Customer Service at 800-645-9291.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

A broad range of liquid chemicals. Questions call Lakeland Customer Service at 800-645-9291.

<b>Duration of Protection</b>	Fabric test data: Average breakthrough time VX: Greater than 12 h at 10 g/m <sup>2</sup> GB and L: Greater than 6 h at 10 g/m <sup>2</sup> D: Greater than 3 h at 10 g/m <sup>2</sup> Questions call Lakeland Customer Service at 800-645-9291
<b>Recommended Use(s)</b>	Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through 5X
<b>Weight</b>	6 lb per case, six in a case
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	None
<b>Material Type</b>	Garment is selectively permeable
<b>Construction Type</b>	Seam sewn and the heat-sealed with tape
<b>Color</b>	White
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	After 5 yr, recommended to use only for training
<b>Transportability</b>	No support equipment required for transportation
<b>Operational Limitations</b>	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
<b>Environmental Conditions</b>	Designed to be worn in common outdoor conditions
<b>Unit Cost</b>	Not applicable—cost to be determined by distributors
<b>Maintenance Cost</b>	Not applicable
<b>Warranty</b>	90 d
<b>Don/Doff Information</b>	Not specified
<b>Use/Reuse</b>	Limited use
<b>Launderability</b>	Suits are not launderable
<b>Accessories</b>	None



**Special Requirements**

<b>Training Requirements</b>	None
<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available
<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

*Lakeland Tychem® SL Level B Coverall*

**ID# 165**



**Technology**

Particle separation

**Stock Number**

72120

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (hood, elastic face, open wrists, and ankles)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GB and VX); blister agents (HD and L). Questions call Lakeland Customer Service at 800-645-9291.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

A broad range of liquid chemicals. Questions call Lakeland Customer Service at 800- 645- 9291

<b>Duration of Protection</b>	Fabric test data: Average breakthrough time VX: Greater than 12 h at 10 g/m <sup>2</sup> GB and L: Greater than 6 h at 10 g/m <sup>2</sup> D: Greater than 3 h at 10 g/m <sup>2</sup> Questions call Lakeland Customer Service at 800-645-9291
<b>Recommended Use(s)</b>	Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through 5X
<b>Weight</b>	7 lb per case, six in a case
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	None
<b>Material Type</b>	Garment is selectively permeable
<b>Construction Type</b>	Seam sewn and the heat-sealed with tape
<b>Color</b>	White
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	After 5 yr, recommended to use only for training
<b>Transportability</b>	No support equipment required for transportation
<b>Operational Limitations</b>	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
<b>Environmental Conditions</b>	Designed to be worn in common outdoor conditions
<b>Unit Cost</b>	Not applicable—cost to be determined by distributors
<b>Maintenance Cost</b>	Not applicable
<b>Warranty</b>	90 d
<b>Don/Doff Information</b>	Not specified
<b>Use/Reuse</b>	Limited use
<b>Launderability</b>	Suits are not launderable
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Not specified

<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available
<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

**Lakeland Tychem® SL Level B Coverall**

**ID# 166**



**Technology**

Particle separation

**Stock Number**

72130

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (hood, elastic wrists, and ankles)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GB and VX); blister agents (HD and L). Questions call Lakeland Customer Service at 800-645-9291.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

A broad range of liquid chemicals. Questions call Lakeland Customer Service at 800-645-9291.

<b>Duration of Protection</b>	Fabric test data: Average breakthrough time VX: Greater than 12 h at 10 g/m <sup>2</sup> GB and L: Greater than 6 h at 10 g/m <sup>2</sup> D: Greater than 3 h at 10 g/m <sup>2</sup> Questions call Lakeland Customer Service at 800-645-9291
<b>Recommended Use(s)</b>	Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through 5X
<b>Weight</b>	7 lb
<b>Package Size and Volume</b>	16 1/8 in L x 10 7/8 in W x 8 in H
<b>Power Requirements</b>	None
<b>Material Type</b>	Garment is selectively permeable
<b>Construction Type</b>	Seam sewn and the heat-sealed with tape
<b>Color</b>	White
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	After 5 yr, recommended to use only for training
<b>Transportability</b>	No support equipment required for transportation
<b>Operational Limitations</b>	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
<b>Environmental Conditions</b>	Designed to be worn in common outdoor conditions
<b>Unit Cost</b>	Not applicable—cost to be determined by distributors
<b>Maintenance Cost</b>	Not applicable
<b>Warranty</b>	90 d
<b>Don/Doff Information</b>	Not specified
<b>Use/Reuse</b>	Limited use
<b>Launderability</b>	Suits are not launderable
<b>Accessories</b>	None

**Special Requirements**

<b>Training Requirements</b>	Not specified
<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available
<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

***Lakeland Tychem® SL Level B Coverall***

**ID# 167**



**Technology**

Particle separation

**Stock Number**

72140

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (hood, elastic face, open wrists, and boots)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GB and VX); blister agents (HD and L). Questions call Lakeland Customer Service at 800-645-9291.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

A broad range of liquid chemicals. Questions call Lakeland Customer Service at 800-645-9291.



**Duration of Protection**

Fabric test data: Average breakthrough time  
VX: Greater than 12 h at 10 g/m<sup>2</sup>  
GB and L: Greater than 6 h at 10 g/m<sup>2</sup>  
D: Greater than 3 h at 10 g/m<sup>2</sup>  
Questions call Lakeland Customer Service at 800-645-9291

**Recommended Use(s)**

Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments

**Physical Parameters****Sizes Available**

S through 5X

**Weight**

8 lb per case, six in a case

**Package Size and Volume**

Not specified

**Power Requirements**

None

**Material Type**

Garment is selectively permeable

**Construction Type**

Seam sewn and the heat-sealed with tape

**Color**

White

**Logistical Parameters****Ease of Use**

Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC

**Consumables**

None

**Maintenance Requirements**

Not specified

**Shelf Life**

After 5 yr, recommended to use only for training

**Transportability**

No support equipment required for transportation

**Operational Limitations**

Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.

**Environmental Conditions**

Designed to be worn in common outdoor conditions

**Unit Cost**

Not applicable—cost to be determined by distributors

**Maintenance Cost**

Not applicable

**Warranty**

90 d

**Don/Doff Information**

Not specified

**Use/Reuse**

Limited use

**Launderability**

Suits are not launderable

**Accessories**

None

**Special Requirements****Training Requirements**

Not specified

<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available
<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

**Lakeland Tychem® SL Level B Coverall**

**ID# 168**



**Technology**

Particle separation

**Stock Number**

72150

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (hood, elastic face, elastic wrists, and boots)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GB and VX); blister agents (HD and L). Questions call Lakeland Customer Service at 800-645-9291.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

A broad range of liquid chemicals. Questions call Lakeland Customer Service at 800-645-9291.

<b>Duration of Protection</b>	Fabric test data: Average breakthrough time VX: Greater than 12 h at 10 g/m <sup>2</sup> GB and L: Greater than 6 h at 10 g/m <sup>2</sup> D: Greater than 3 h at 10 g/m <sup>2</sup> Questions call Lakeland Customer Service at 800-645-9291
<b>Recommended Use(s)</b>	Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through 5X
<b>Weight</b>	8 lb per case, six in a case
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	None
<b>Material Type</b>	Garment is selectively permeable
<b>Construction Type</b>	Seam sewn and the heat-sealed with tape
<b>Color</b>	White and grey
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	After 5 yr, recommended to use only for training
<b>Transportability</b>	No support equipment required for transportation
<b>Operational Limitations</b>	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
<b>Environmental Conditions</b>	Designed to be worn in common outdoor conditions
<b>Unit Cost</b>	Not applicable—cost to be determined by distributors
<b>Maintenance Cost</b>	Not applicable
<b>Warranty</b>	90 d
<b>Don/Doff Information</b>	Not specified
<b>Use/Reuse</b>	Limited use
<b>Launderability</b>	Suits are not launderable
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Not specified

<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available
<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

***Lakeland Tychem® SL Level B Coverall***

**ID# 169**



**Technology**

Particle separation

**Stock Number**

72165

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (hood, 30" zipper extended to chin, double storm flap with Velcro, elastic wrists, and boots with boot flaps)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GB and VX); blister agents (HD and L). Questions call Lakeland Customer Service at 800-645-9291.

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

A broad range of liquid chemicals. Questions call Lakeland Customer Service at 800-645-9291.

**Duration of Protection**

Fabric test data: Average Breakthrough Time  
 VX: Greater than 12 h at 10 g/m<sup>2</sup>  
 GB and L: Greater than 6 h at 10 g/m<sup>2</sup>  
 D: Greater than 3 h at 10 g/m<sup>2</sup>  
 Questions call Lakeland Customer Service at 800-645-9291

**Recommended Use(s)**

Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments

**Physical Parameters****Sizes Available**

S through 5X

**Weight**

8 lb per case, six in a case

**Package Size and Volume**

Not specified

**Power Requirements**

None

**Material Type**

Garment is selectively permeable

**Construction Type**

Seam sewn and the heat-sealed with tape

**Color**

White

**Logistical Parameters****Ease of Use**

Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC

**Consumables**

None

**Maintenance Requirements**

Not specified

**Shelf Life**

After 5 yr, recommended to use only for training

**Transportability**

No support equipment required for transportation

**Operational Limitations**

Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.

**Environmental Conditions**

Designed to be worn in common outdoor conditions

**Unit Cost**

Not applicable—cost to be determined by distributors

**Maintenance Cost**

Not applicable

**Warranty**

90 d

**Don/Doff Information**

Not specified

**Use/Reuse**

Limited use

**Launderability**

Suits are not launderable

**Accessories**

None

**Special Requirements**

<b>Training Requirements</b>	Not specified
<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available
<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes



**General**

**Name**

***Lakeland Tychem® 9400 Level B Coverall***

**ID# 170**



**Technology**

Particle separation

**Stock Number**

94100 Tychem® 9400  
BR100 Tychem® BR

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (collar, open wrists, and ankles)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L)

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

A broad range of TIMs. Contact Lakeland for further information.

**Duration of Protection**

Breakthrough time at minimum of 8 h, except ammonia at 45 min, dichloromethane at 391 min, and methanol at 150 min

**Recommended Use(s)** Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments

**Physical Parameters**

**Sizes Available** S through 5X

**Weight** 12 lb per case, six in a case

**Package Size and Volume** Not specified

**Power Requirements** None

**Material Type** Garment is selectively permeable

**Construction Type** Seam sewn and the heat-sealed with tape

**Color** School bus yellow

**Logistical Parameters**

**Ease of Use** Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC

**Consumables** None

**Maintenance Requirements** Not specified

**Shelf Life** After 5 yr, recommended to use only for training

**Transportability** No support equipment required for transportation

**Operational Limitations** Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.

**Environmental Conditions** Designed to be worn in common outdoor conditions

**Unit Cost** Not applicable—cost to be determined by distributors

**Maintenance Cost** Not applicable

**Warranty** 90 d

**Don/Doff Information** Not specified

**Use/Reuse** Limited use

**Launderability** Suits are not launderable

**Accessories** None

**Special Requirements**

**Training Requirements** Not specified

**Training Available** Available through regional sales representation

**Manuals Available** User manual and permeation guide available

<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

***Lakeland Tychem® 9400 Level B Coverall***

**ID# 171**



**Technology**

Particle separation

**Stock Number**

94130 Tychem® 9400  
BR130 Tychem® BR

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (hood, elastic wrists, and ankles)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L)

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

A broad range of TIMs. Contact Lakeland for further information.

**Duration of Protection**

Breakthrough time at minimum of 8 h, except ammonia at 45 min, dichloromethane at 391 min, and methanol at 150 min

<b>Recommended Use(s)</b>	Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through 5X
<b>Weight</b>	12 lb per case, six in a case
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	None
<b>Material Type</b>	Garment is selectively permeable
<b>Construction Type</b>	Seam sewn and the heat-sealed with tape
<b>Color</b>	School bus yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	After 5 yr, recommended to use only for training
<b>Transportability</b>	No support equipment required for transportation
<b>Operational Limitations</b>	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
<b>Environmental Conditions</b>	Designed to be worn in common outdoor conditions
<b>Unit Cost</b>	Not applicable—cost to be determined by distributors
<b>Maintenance Cost</b>	Not applicable
<b>Warranty</b>	90 d
<b>Don/Doff Information</b>	Not specified
<b>Use/Reuse</b>	Limited use
<b>Launderability</b>	Suits are not launderable
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Not specified
<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available

<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

***Lakeland Tychem® 9400 Level B Coverall***

**ID# 172**



**Technology**

Particle separation

**Stock Number**

94140 Tychem® 9400  
BR140 Tychem® BR

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (hood, elastic face, open wrists, and ankles)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L)

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

A broad range of TIMs. Contact Lakeland for further information.

**Duration of Protection**

Breakthrough time at minimum of 8 h, except ammonia at 45 min, dichloromethane at 391 min, and methanol at 150 min

**Recommended Use(s)** Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments

**Physical Parameters**

**Sizes Available** S through 5X

**Weight** 12 lb per case, six in a case

**Package Size and Volume** Not specified

**Power Requirements** None

**Material Type** Garment is selectively permeable

**Construction Type** Seam sewn and the heat-sealed with tape

**Color** School bus yellow

**Logistical Parameters**

**Ease of Use** Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC

**Consumables** None

**Maintenance Requirements** Not specified

**Shelf Life** After 5 yr, recommended to use only for training

**Transportability** No support equipment required for transportation

**Operational Limitations** Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.

**Environmental Conditions** Designed to be worn in common outdoor conditions

**Unit Cost** Not applicable—cost to be determined by distributors

**Maintenance Cost** Not specified

**Warranty** 90 d

**Don/Doff Information** Not specified

**Use/Reuse** Limited use

**Launderability** Suits are not launderable

**Accessories** None

**Special Requirements**

**Training Requirements** Not specified

**Training Available** Available through regional sales representation

**Manuals Available** User manual and permeation guide available

**Surveillance Testing Requirements** Visually inspect prior to use for holes or tears



<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

**Lakeland Tychem® 9400 Level B Coverall**

**ID# 173**



**Technology**

Particle separation

**Stock Number**

94160 Tychem® 9400  
BR160 Tychem® BR

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (hood, elastic face, elastic wrists, and boots with boot flaps)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L)

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

A broad range of TIMs. Contact Lakeland for further information.

**Duration of Protection**

Breakthrough time at minimum of 8 h, except ammonia at 45 min, dichloromethane at 391 min, and ethanol at 150 min

<b>Recommended Use(s)</b>	Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	S through 5X
<b>Weight</b>	14 lb per case, six in a case
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	None
<b>Material Type</b>	Garment is selectively permeable
<b>Construction Type</b>	Seam sewn and the heat-sealed with tape
<b>Color</b>	School bus yellow
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC
<b>Consumables</b>	None
<b>Maintenance Requirements</b>	Not specified
<b>Shelf Life</b>	After 5 yr, recommended to use only for training
<b>Transportability</b>	No support equipment required for transportation
<b>Operational Limitations</b>	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
<b>Environmental Conditions</b>	Designed to be worn in common outdoor conditions
<b>Unit Cost</b>	Not applicable—cost to be determined by distributors
<b>Maintenance Cost</b>	Not applicable
<b>Warranty</b>	90 d
<b>Don/DoFF Information</b>	Not specified
<b>Use/Reuse</b>	Limited use
<b>Laundryability</b>	Suits are not launderable
<b>Accessories</b>	None
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Not specified
<b>Training Available</b>	Available through regional sales representation
<b>Manuals Available</b>	User manual and permeation guide available
<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears

<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

***Lakeland Tychem<sup>®</sup> 9400 Level B Coverall***

**ID# 174**



**Technology**

Particle separation

**Stock Number**

94165 Tychem<sup>®</sup> 9400  
BR165 Tychem<sup>®</sup> BR

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, coverall (respirator-fit hood, elastic wrists, double storm flap, and boots with boot flaps)

**Availability**

4 wk to 5 wk ARO

**Current User(s)**

Government organizations, municipal HAZMAT teams, fire departments, international HAZMAT/military organizations, and industry

**Manufacturer**

Lakeland Industries, Inc.  
202 Pride Lane, SW  
Decatur, AL 35602  
Internet: [www.lakeland.com](http://www.lakeland.com)  
POC: Carl Brown (Technical Product Specialist)  
POC: Steve McCully (Product Manager)  
800-645-9291 (Tel)  
256-350-3011 (Fax)

**Manufacturer Type**

Domestic

**Developer**

Lakeland Industries

**Source**

[www.lakeland.com](http://www.lakeland.com)

**Certification**

Not applicable

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L)

**Biological Warfare (BW)  
Agents Protected Against**

Not specified

**Toxic Industrial (TIMs)  
Protected Against**

A broad range of TIMs. Contact Lakeland for further information.

**Duration of Protection**

Breakthrough time at minimum of 8 h, except ammonia at 45 min, dichloromethane at 391 min, and methanol at 150 min

**Recommended Use(s)** Tactical operations, HAZMAT teams, chemical/biological testing, training, and warfare environments

**Physical Parameters**

**Sizes Available** S through 5X

**Weight** 14 lb per case, six in a case

**Package Size and Volume** 16 in L x 11 in W x 13 in H

**Power Requirements** None

**Material Type** Garment is selectively permeable

**Construction Type** Seam sewn and the heat-sealed with tape

**Color** School bus yellow

**Logistical Parameters**

**Ease of Use** Garment poses no major mobility or flexibility problems for wearer compared to other Level B CPC

**Consumables** None

**Maintenance Requirements** Not specified

**Shelf Life** After 5 yr, recommended to use only for training

**Transportability** No support equipment required for transportation

**Operational Limitations** Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.

**Environmental Conditions** Designed to be worn in common outdoor conditions

**Unit Cost** Not applicable—cost to be determined by distributors

**Maintenance Cost** Not applicable

**Warranty** 90 d

**Don/Doff Information** Not specified

**Use/Reuse** Limited use

**Launderability** Suits are not launderable

**Accessories** None

**Special Requirements**

**Training Requirements**

**Training Available** Available through regional sales representation

**Manuals Available** User manual and permeation guide available

<b>Surveillance Testing Requirements</b>	Visually inspect prior to use for holes or tears
<b>Support Equipment</b>	None
<b>Testing Information</b>	Not specified
<b>Applicable Regulations</b>	None
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Option is available
<b>EOD Compatibility</b>	Yes

**General**

**Name**

***Chemical Protective Overgarments (CPO)  
LANX Fabric Systems***

**ID# 175**



**Technology**

LANX is a durable composite fabric containing polymerically encapsulated carbon for the absorption of chemical warfare agents. The overgarment also features a shell fabric with flame resistant or nonflame resistant characteristics.

**Stock Number**

Not applicable

**Protection Type**

Percutaneous. The CPO provides liquid, vapor, and aerosol protection against CB agents as well as flame resistance when required.

**Equipment Category**

CPO consists of a coat and trousers with suspenders as well as accessories such as all fabric glove liners, integrated gloves, and boot liners. Shell fabric is available in flame resistant (FR) and nonflame resistant (non-FR).

**Availability**

Lead-time depends on order volume. All CPOs custom made to order.

**Current User(s)**

Center for Domestic Preparedness, Ft. McClellan, AL where students are trained in live chemical warfare agent environments. The FBI HAZMAT Response Unit.

**Manufacturer**

LANX Fabric Systems  
220 GBC Drive  
Newark, DE 19702  
POC: Randall D. Lofland  
302-451-3060 (Tel)  
302-451-0208 (Fax)  
e-mail: randall.lofland@xymid.com

**Manufacturer Type**

Domestic

**Developer**

DuPont developed the LANX technology. LANX Fabric Systems has exclusive rights to manufacture and market the product.

**Source**

LANX Fabric Systems

**Certification**

All CPOs meet the chemical agent protective requirements of Military Specification MIL-U-44435

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Distilled mustard (HD), soman (GD), thickened soman (TGD), Lewisite (L), VX, and other lower order agents such as sarin



<b>Biological Warfare (BW) Agents Protected Against</b>	The CPU inherently protects against BW agents as the particulate size of a BW agent is larger than that of a CW agent making it easier to absorb than CW agents
<b>Toxic Industrial (TIMs) Protected Against</b>	Not specified
<b>Duration of Protection</b>	The CPO is recommended for personnel responding to a WMD incident who require protective apparel that permit the end user to work for extended periods of time in a chemical-biological environment. The CPO is recommended for search and rescue, emergency medical services, WMD Incident Command Support Personnel, HAZMAT response, and law enforcement (depending on application and task assignment). The CPO can be used throughout the identification, mitigation and clean up of a WMD event by a variety of first responders when Level A suits are not required.
<b>Recommended Use(s)</b>	Chemical agent vapors, aerosols, droplets, and all known biological agents.
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	Shirt and drawers: S/extra short, S/short, M/short, M/regular, M/long, L/regular, L/long (sizing available upon request) All fabric glove liners: S, M, L, and custom made XL Integrated gloves: S, M, L, and XL Boot liners: S, M, L, and XL
<b>Weight</b>	Weighs less than 5 lb per suit
<b>Package Size and Volume</b>	The CPO is vacuum packed and occupies approximately 1 ft <sup>3</sup> of space
<b>Power Requirements</b>	None
<b>Material Type</b>	Proprietary
<b>Construction Type</b>	Proprietary
<b>Color</b>	Gray
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Very easy to use. Air permeable technology significantly reduces heat stress allowing the user to work exponentially longer than nonpermeable technologies.
<b>Consumables</b>	Not specified
<b>Maintenance Requirements</b>	Store in dry place
<b>Shelf Life</b>	The ultimate shelf life of the CPO has yet to be determined. The technology is 10 yr old and shows no signs of degradation during annual testing. The U.S. Military currently assesses the shelf life to be 12 yr.
<b>Transportability</b>	May be transported easily whether in a backpack, garment bag, tote bag or even hand carried
<b>Operational Limitations</b>	The CPO provides excellent liquid, vapor, and aerosol protection

<b>Environmental Conditions</b>	The CPO works well in most climates. Due care should be taken to keep the CPO in a bag when not in use. The CPO's air permeable nature allows for the transportation of sweat away from the body, significantly reducing heat stress.
<b>Unit Cost</b>	Call for a quotation at 302-451-3060 POC: Randall D. Lofland
<b>Maintenance Cost</b>	None if stored properly
<b>Warranty</b>	The CPO is manufactured to Military Pattern PD 97-04 and meets the chemical protective requirements of Military Specification MIL-U-44435
<b>Don/Doff Information</b>	The CPO is easy to don and doff. One man may don and doff his own CPO under normal circumstances. Some agencies require a two man doffing procedure following contamination. Check your agency protocol.
<b>Use/Reuse</b>	The CPO may be reused after wearing and laundering. After contamination with CW agent, current military doctrine dictates disposing of the garment properly.
<b>Launderability</b>	Yes—The CPO is launderable
<b>Accessories</b>	The CPO has accessories such as all fabric glove liners, integrated gloves, and boot liners
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Minimal training required. Contaminated CPO doffing procedures may vary. Check local protocols.
<b>Training Available</b>	Introductory training is available upon request. Advanced training is based upon agency protocol, and should be developed at the local level.
<b>Manuals Available</b>	Care, use, and storage information is available if needed
<b>Surveillance Testing Requirements</b>	The manufacturer performs CCL4 testing annually prior to distribution to end users. The end user should visually inspect the CPO at regularly scheduled intervals.
<b>Support Equipment</b>	Not applicable
<b>Testing Information</b>	The most recent testing of the LANX CPO was performed using AVLAG Test Operating Procedure (TOP) 8-2-501
<b>Applicable Regulations</b>	The CPO is governed by the International Traffic and Arms Regulations (ITAR)
<b>Health Hazards</b>	MSDSs are on file, and no indication of health hazards present
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Wearing the CPO beneath an EOD Suit is the most favorable configuration to assure chemical/biological protection in the event of an explosion

**General**

**Name**

*The U.S. Air Force Saratoga CWU-66/P Chemical Protective Coverall*

**ID# 176**



**Technology**

Permeable Saratoga carbon sphere technology

**Stock Number**

CWU-66/P; (MIL C-87264)

**Protection Type**

Percutaneous

**Equipment Category**

Coverall, Chemical Protective Flight Coverall (MIL C-87264)

**Availability**

Fielded 1990, currently in production

**Current User(s)**

U.S. Air Force, the U.S. Air Force selected the CWU-66/P Chemical Protective Coverall in 1990 as their operational flight suit to provide aircrew chemical agent protection. It is flame resistant.

**Manufacturer**

Tex-Shield, Inc.  
5206 Morrowick Rd  
Charlotte, NC 28226  
POC: Nona Fahl  
704-341-3681 (Tel)  
704-341-3468 (Fax)

**Manufacturer Type**

Domestic and Foreign

**Developer**

Blucher GmbH, Erkrath, Germany/USAF

**Source**

Tex-Shield, Inc.

**Certification**

U.S. and NATO military chemical protection specifications. (MIL C-87264).

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

All classes of chemical warfare agents when used as directed with chemical warfare protective mask, gloves, and overboots or socks

**Biological Warfare (BW)  
Agents Protected Against**

Protects against biological warfare agents when used as directed with appropriate mask, gloves, and overboots or socks

**Toxic Industrial (TIMs)  
Protected Against**

Not tested

**Duration of Protection**

Qualified by DoD for 24 h vapor protection, 6 h liquid protection, 10 launderings, and 30 d wear

**Recommended Use(s)** Operational flight suit

**Physical Parameters**

**Sizes Available** 32S to 52L

**Weight** < 5 lb depending on size

**Package Size and Volume** 17 in x 22 in

**Power Requirements** None

**Material Type** Monopack, one layer fabric of Saratoga activated carbon spheres between PBI/Nomex fabrics

**Construction Type** Coverall, one piece, unlined with front zipper, Velcro closures at leg and sleeves, breast pockets, sleeve pocket, and lower leg pockets

**Color** Sage green

**Logistical Parameters**

**Ease of Use** 98 % user acceptance

**Consumables** Mpme

**Maintenance Requirements** General suit inspection. Standard laundering. Record wear use and launderings.

**Shelf Life** 10 yr

**Transportability** Vacuum sealed, compact package

**Operational Limitations** Flame resistant

**Environmental Conditions** No environmental usage limitations. Not affected by rain, fog, snow, salt, and water.

**Unit Cost** Not specified

**Maintenance Cost** None

**Warranty** Free of material and workmanship defects for 1 yr

**Don/Doff Information** Assistance is recommended in doffing contaminated coverall

**Use/Reuse** Reusable and launderable

**Launderability** Suit is launderable 10 times for hygienic purposes. Standard home laundering.

**Accessories** Suit may be purchased as package with Saratoga gloves, and socks

**Special Requirements**

**Training Requirements** No special training required

**Training Available** No special training required

**Manuals Available** Instruction manual

<b>Surveillance Testing Requirements</b>	No testing required. Inspection for tears and damage required.
<b>Support Equipment</b>	Chemical warfare mask, gloves, and socks or overboots
<b>Testing Information</b>	Only approved CWU-66/P. Test data available on request.
<b>Applicable Regulations</b>	Not specified
<b>Health Hazards</b>	None
<b>Communications Interface Capability</b>	Not specified
<b>EOD Compatibility</b>	Compatible with EOD equipment in CB environment

**General**

**Name**

***CB Incident Emergency Escape Kit***

**ID# 177**



**Technology**

Percutaneous (Tychem<sup>®</sup> 9400 (durable, puncture and tear-resistant limited-use fabric). Respiratory (full-face air-purifying respirator).

**Stock Number**

Not specified

**Protection Type**

Percutaneous and respiratory

**Equipment Category**

The CB Incident Emergency Escape Kit is designed for the safe exit of areas where hazardous chemical and biological warfare agents have been disseminated. The kit includes a full-face air-purifying respirator with a chemical-biological/riot control agent.

**Availability**

Commercially available

**Current User(s)**

Not specified

**Manufacturer**

EAI Corporation  
1308 Continental Drive, Suite J  
Abingdon, MD 21009  
888-REC-3838 (Tel)  
410-671-0058 (Fax)

**Manufacturer Type**

Domestic

**Developer**

EAI Corporation

**Source**

[www.r-e-c.com](http://www.r-e-c.com)

**Certification**

Not specified

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Nerve: GA, GB, GD, and VX; blister: HD and L

**Biological Warfare (BW)  
Agents Protected Against**

Not specified, but literature states it is designed for safe exit where BW agents have been disseminated

**Toxic Industrial (TIMs)  
Protected Against**

Not specified

**Duration of Protection**

CW- 12 h minimum in each of the chemical groups under protocols DN3, DN4, DN5, and DN6 (except 2 h for Lewisite under protocol DN4)

<b>Recommended Use(s)</b>	Law enforcement, security, medical personnel (e.g., EMS, paramedics, doctors, and nurses), other personnel predeployed at highly visible events
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	Not specified
<b>Weight</b>	Not specified
<b>Package Size and Volume</b>	Not specified
<b>Power Requirements</b>	Not specified
<b>Material Type</b>	Coverall and boots made of Tychem <sup>®</sup> 9400 (durable, limited-use fabric with puncture, and tear resistance)
<b>Construction Type</b>	Not specified
<b>Color</b>	Yellow coverall and boot covers; black gloves
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Highly mobile, flexible
<b>Consumables</b>	Not applicable for coverall
<b>Maintenance Requirements</b>	Check for cuts and damage after use
<b>Shelf Life</b>	Not specified
<b>Transportability</b>	Transportable (ensemble is packaged in a nylon duffel bag) and compatible with life support equipment
<b>Operational Limitations</b>	Not specified
<b>Environmental Conditions</b>	Designed to be worn in common outdoor weather conditions, and climates
<b>Unit Cost</b>	Not specified
<b>Maintenance Cost</b>	None
<b>Warranty</b>	Not specified
<b>Don/Doff Information</b>	Not specified
<b>Use/Reuse</b>	Designed for limited use
<b>Launderability</b>	Designed for limited use
<b>Accessories</b>	Boot covers, butyl outer gloves, vinyl inner glove inserts, full-face air-purifying respirator with a chemical-biological/riot control agent canister
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	Not specified
<b>Training Available</b>	Not specified
<b>Manuals Available</b>	Not specified
<b>Surveillance Testing Requirements</b>	Inspection for cuts, damage, and chemical contamination

<b>Support Equipment</b>	Full-face air-purifying respirator with a chemical-biological/riot control agent canister
<b>Testing Information</b>	Protocols DN3, DN4, DN5, and DN6 for CW agents
<b>Applicable Regulations</b>	Not specified
<b>Health Hazards</b>	Not applicable
<b>Communications Interface Capability</b>	Not specified
<b>EOD Compatibility</b>	Not specified



**General**

**Name**

**SEA Tyvek® “F” Suit Level B**

**ID# 178**



**Technology**

Percutaneous—barrier fabric  
Tyvek® “F” is manufactured by laminating the basic Tyvek® flash-spunbonded polyethylene material to a barrier film which is coated with a polymer. The top polymer layer allows seams to be made with a heat-sealing tape which includes the same barrier film and polymer as Tyvek® “F.” Known chemical warfare agents will not permeate these seams. The SEA Tyvek® “F” positive pressure suit is especially made for the SE400, breath responsive, computerized positive pressure PAPR, with optional cooling system.

**Stock Number**

Not specified

**Protection Type**

Level B, Percutaneous

**Equipment Category**

Level B, positive pressure ventilated chemical protective clothing

**Availability**

Commercial

**Current User(s)**

Frequently used by emergency preparedness teams in Europe

**Manufacturer**

SEA  
11 Business Park Drive  
Branford CT 06405  
Contact: Bengt Kjellberg, President  
203-483-9483 (Tel)  
203-483-6633 (Fax)  
888-732-3500 (Toll Free U.S. and Canada)  
Email: bengtk@sea.com.au  
<http://www.sea.com.au>

**Manufacturer Type**

Foreign

**Developer**

SEA Group

**Source**

Brochure and Internet <http://www.sea.com.au>

**Certification**

Tyvek “F” models typically surpass the minimum performance requirements specified in the European standards. For detailed information call 888-832-3500.

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Tested by U.S. Army SBCCOM Edgewood Biological and Chemical Center, Aberdeen Proving Ground, MD. Test parameters available on request (888-732-3500).

**Biological Warfare (BW)  
Agents Protected Against** Specification available on request. Call 888-732-3500 and ask for the document regarding Tyvek Barrier Man Chemical Protective Clothing.

**Toxic Industrial (TIMs)  
Protected Against** Specification available on request. Call 888-732-3500 and ask for the document regarding Tyvek Barrier Man Chemical Protective Clothing.

**Duration of Protection** In an environment where guaranteed high protection factor, in combination with long duration time and low weight is needed, and in combination with positive pressure suit ventilation

**Recommended Use(s)** In an environment where guaranteed high protection factor, in combination with long duration time and low weight is needed, and in combination with positive pressure suit ventilation

**Physical Parameters**

**Sizes Available** Size options: L, XL, and XXL

**Weight** Complete suit 1.5 lb. Suit ventilation system additional 0.5 lb.

**Package Size and Volume** 9 in x 12 in x 8 in

**Power Requirements** (3) D-alkaline batteries if personal ice cooling system is integrated with the suit (for 4 h duration)

**Material Type** Tyvek "F" (high density polyethylene)

**Construction Type** Heat-sealed seams

**Color** Green

**Logistical Parameters**

**Ease of Use** Disposable suit specially designed for SE 400 for ease of donning and doffing with suit ventilation and positive pressure in suit to gain high protection

**Consumables** Disposable suit

**Maintenance Requirements** Store in a dry location and avoid direct contact with sunlight for prolonged periods

**Shelf Life** The projected shelf life of Tyvek "F" fabrics based on accelerated aging tests according to ASTM 573-88 conducted at 212 °F and 100 psi is 5 yr

**Transportability** The SEA suit can be transported without the need for any special equipment

**Operational Limitations** The SEA suit is very lightweight with positive pressure and suit cooling capability option; therefore, there is very little additional workload so the user can perform normal work for longer periods without suffering discomfort, even in high temperature environments.

**Environmental Conditions** Specification available on request. Call 1-888-732-3500 and ask for document regarding Tyvek Barrier Man Chemical Protective Clothing.

**Unit Cost** \$175

**Maintenance Cost** Disposable

<b>Warranty</b>	The supplier warrants that all products manufactured by it shall be free of defects in material and workmanship for a period of 1 yr from the date of delivery
<b>Don/Doff Information</b>	There is no assistance required for the donning or doff of the SEA suit. An experienced operator can comfortably don or doff within 2 min.
<b>Use/Reuse</b>	Disposable
<b>Laundryability</b>	Disposable
<b>Accessories</b>	SE 400 positive pressure PAPR system with communication. Positive pressure ventilation system and integrated personal ice cooling system.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	No specific training required other than to read the manual. Fifteen min will give the user the basic operational understanding. Further training is required for the user to understand the maintenance and care of the SE400.
<b>Training Available</b>	SEA can provide full training for use, maintenance, and care of the SEA suit
<b>Manuals Available</b>	Training documentation can be provided
<b>Surveillance Testing Requirements</b>	Not applicable
<b>Support Equipment</b>	Not applicable
<b>Testing Information</b>	Specification available on request. Call 1-888-732-3500 and ask for document regarding Tyvek Barrier Man Chemical Protective Clothing.
<b>Applicable Regulations</b>	European standards
<b>Health Hazards</b>	The Tyvek "F" garments could be incinerated after use without harming the environment, or they may be buried in a responsible way
<b>Communications Interface Capability</b>	SE-TALK—a miniature loudspeaker that connects to the respirator unit as well as the positive pressure suit cooling system
<b>EOD Compatibility</b>	

**General**

**Name**

*NewPac CEMI COVER DRESS C/91*

**ID# 179**



**Technology**

Disposable, 10 plies, impermeable NBC and TIM skin protective two piece plastic (PE) garment with double barrier of EVAL (EVOH)

**Stock Number**

NewPac/2007 (Alt. NewPac/2015)

**Protection Type**

Percutaneous

**Equipment Category**

Level B, two piece plastic garment with double barrier; shall be used with APR or PAPR

**Availability**

2 wk

**Current User(s)**

First responders and rescue squads in Europe and SE Asia

**Manufacturer**

New Pac Safety AB  
P.O. Box 174  
SE-566 23 Habo  
Sweden  
+46-36-411-39 (Tel)  
+46-36-410-31 (Fax)  
E-mail: info@newpac.se

**Manufacturer Type**

Foreign/Sweden, Europe

**Developer**

New Pac Safety AB

**Source**

Createc Consulting LLC, Branford, CT.  
www.army-technology.com New Pac Safety  
POC: Mr. Hans Almqvist  
203-481-7114 (Tel)

**Certification**

CE-certified by the notified body 0402, SA, Borås, Sweden. Certificate No: 19 83 01. Meets European EU Directives 89/686/EEC, Article 10.

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Most types. Documentation by tests with HD.

**Biological Warfare (BW)  
Agents Protected Against**

Most types

**Toxic Industrial (TIMs)  
Protected Against**

Most types

<b>Duration of Protection</b>	NBC-proof for more than 24 h. TIM-proof for more than 4 h.
<b>Recommended Use(s)</b>	First responders for environments with no risk of fire
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	One size, universal fit
<b>Weight</b>	2.2 lb (1 kg)
<b>Package Size and Volume</b>	11 x 11 x 3 in; 0.18 ft <sup>3</sup>
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Multiply polyethylene (PE) film with two barrier layers of ethylene vinyl alcohol (EVAL/EVOH). The material is not fire retardant.
<b>Construction Type</b>	Two-piece suit with integrated hood and with special foot covers. The seams are thermo-sealed. Gloves are separate.
<b>Color</b>	Transparent
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Shall be used with APR or PAPR with full-face mask. Mobility and flexibility are only marginally influenced, but cooling vest is recommended for warm environments to reduce risk of heat stress.
<b>Consumables</b>	Not applicable
<b>Maintenance Requirements</b>	Not applicable; the suit is disposable
<b>Shelf Life</b>	20 yr in storage with temperature maximum 122 °F
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Must not be exposed to intensive heat or open flame
<b>Environmental Conditions</b>	Unlimited use in -13 °F to +158 °F (+70 °C). Can withstand short (4 min) exposure to -40 °F to +572 °F.
<b>Unit Cost</b>	\$119
<b>Maintenance Cost</b>	Not applicable
<b>Warranty</b>	1 yr. Extended warranty is offered if storage conditions can be guaranteed.
<b>Don/Doff Information</b>	Manual is provided
<b>Use/Reuse</b>	If contaminated, the suit shall be destroyed by fire under controlled conditions
<b>Launderability</b>	Not applicable
<b>Accessories</b>	Shall be used with APR or PAPR with full-face mask. Cooling vest is recommended for warm environments.
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	1 h

<b>Training Available</b>	Manual. Training video pending.
<b>Manuals Available</b>	Technical specification New Pac TS C/9107-2 and user manual
<b>Surveillance Testing Requirements</b>	No need for surveillance testing
<b>Support Equipment</b>	APR or PAPR with full-face mask. Cooling vest recommended for use in warm environments.
<b>Testing Information</b>	New Pac TS C/9107-2
<b>Applicable Regulations</b>	EU-Directives 89/686/EEC and Article 10
<b>Health Hazards</b>	No health hazard
<b>Communications Interface Capability</b>	Not applicable
<b>EOD Compatibility</b>	Not specified

**General**

**Name**

*NewPac First Responder PPE Kit*

**ID# 180**



**Technology**

Complete First Responder PPE Kit including protective suit, APR with full-face mask, canister and manual packaged in storage and carrying bag for use when responding to environments containing NBC agents and/or TIMs.

**Stock Number**

NewPac/2030

**Protection Type**

Percutaneous and respiratory

**Equipment Category**

Level B, complete First Responder PPE Kit including protective suit, APR with full-face mask, canister and manual packaged in storage and carrying bag for use when responding to environments containing NBC agents and/or TIMs; use APR with full face mask.

**Availability**

In May 2001: 3 mo. In fall of 2001: 2 wk.

**Current User(s)**

First responders and rescue squads in Europe and SE Asia

**Manufacturer**

New Pac Safety AB  
P.O. Box 174  
SE-566 23 Habo  
Sweden  
+46-36-411-39 (Tel)  
+46-36-410-31 (Fax)  
E-mail: info@newpac.se

**Manufacturer Type**

Foreign/Sweden, UK, and Hungary

**Developer**

New Pac Safety AB

**Source**

Createc Consulting LLC, Branford, CT.  
www.army-technology.com New Pac Safety  
POC: Mr. Hans Almqvist  
203-481-7114 (Tel)

**Certification**

The suit meets EU standard. NIOSH certification for APR pending. The kit will be tested to pending NFPA 1994 standard.

**Operational Parameters**

**Chemical Warfare (CW)  
Agents Protected Against**

Most types

<b>Biological Warfare (BW) Agents Protected Against</b>	Most types
<b>Toxic Industrial (TIMs) Protected Against</b>	Most types
<b>Duration of Protection</b>	Not specified
<b>Recommended Use(s)</b>	First responders for environments not IDLH and with no risk of fire
<b><u>Physical Parameters</u></b>	
<b>Sizes Available</b>	One size, universal fit. Full-face mask available in two sizes.
<b>Weight</b>	6.6 lb (3 kg)
<b>Package Size and Volume</b>	11 x 11 x 9 in; 0.5 ft <sup>3</sup>
<b>Power Requirements</b>	Not applicable
<b>Material Type</b>	Multiply polyethylene (PE) film with two barrier layers of ethylene vinyl alcohol (EVAL/EVOH). The material is not fire retardant.
<b>Construction Type</b>	Two-piece suit with integrated hood and with special foot covers. The seams are thermo-sealed. Gloves are separate.
<b>Color</b>	The suit is transparent
<b><u>Logistical Parameters</u></b>	
<b>Ease of Use</b>	Mobility and flexibility are only marginally influenced, but cooling vest is recommended for warm environments to reduce risk of heat stress
<b>Consumables</b>	The canister has to be replaced periodically. Time not specified.
<b>Maintenance Requirements</b>	The full-face mask has to be cleaned after each use. Canister and suit are disposable.
<b>Shelf Life</b>	10 yr in storage with temperature maximum 122 °F. Canister to be replaced periodically.
<b>Transportability</b>	Easily transported
<b>Operational Limitations</b>	Must not be exposed to intensive heat or open flame
<b>Environmental Conditions</b>	Unlimited use in -13 °F to +158 °F (+70 °C)
<b>Unit Cost</b>	\$300
<b>Maintenance Cost</b>	The full face mask has to be cleaned after each use
<b>Warranty</b>	1 yr. Extended warranty is offered if storage conditions can be guaranteed.
<b>Don/Doff Information</b>	Manual is provided
<b>Use/Reuse</b>	If contaminated, the suit shall be destroyed by fire under controlled conditions. The canister shall be replaced after each use. The full-face mask shall be cleaned.



<b>Launderability</b>	Not applicable
<b>Accessories</b>	Cooling vest is recommended for warm environments
<b><u>Special Requirements</u></b>	
<b>Training Requirements</b>	1 h for the use of the kit. Incident commanders need more time depending on their background.
<b>Training Available</b>	Manual. Training video pending.
<b>Manuals Available</b>	Technical specification New Pac TS C/9107-2 and user manual
<b>Surveillance Testing Requirements</b>	No need for surveillance testing
<b>Support Equipment</b>	Cooling vest recommended for use in warm environments. Communication equipment can be added.
<b>Testing Information</b>	New Pac TS C/9107-2 and tests needed for pending NIOSH certification and NFPA 1994 (pending) approval
<b>Applicable Regulations</b>	Suit: EU- Directives 89/686/EEC, Article 10 and pending NFPA 1994 APR: 42 CFR 84. Pending NFPA standard 1994.
<b>Health Hazards</b>	No health hazard
<b>Communications Interface Capability</b>	The full-face mask can be equipped with communication device
<b>EOD Compatibility</b>	Not specified

## ABOUT THE LAW ENFORCEMENT AND CORRECTIONS STANDARDS AND TESTING PROGRAM

The Law Enforcement and Corrections Standards and Testing Program is sponsored by the Office of Science and Technology of the National Institute of Justice (NIJ), U.S. Department of Justice. The program responds to the mandate of the Justice System Improvement Act of 1979, directed NIJ to encourage research and development to improve the criminal justice system and to disseminate the results to Federal, State, and local agencies.

The Law Enforcement and Corrections Standards and Testing Program is an applied research effort that determines the technological needs of justice system agencies, sets minimum performance standards for specific devices, tests commercially available equipment against those standards, and disseminates the standards and the test results to criminal justice agencies nationally and internationally.

The program operates through:

The *Law Enforcement and Corrections Technology Advisory Council* (LECTAC), consisting of nationally recognized criminal justice practitioners from Federal, State, and local agencies, which assesses technological needs and sets priorities for research programs and items to be evaluated and tested.

The *Office of Law Enforcement Standards* (OLES) at the National Institute of Standards and Technology, which develops voluntary national performance standards for compliance testing to ensure that individual items of equipment are suitable for use by criminal justice agencies. The standards are based upon laboratory testing and evaluation of representative samples of each item of equipment to determine the key attributes, develop test methods, and establish minimum performance requirements for each essential attribute. In addition to the highly technical standards, OLES also produces technical reports and user guidelines that explain in nontechnical terms the capabilities of available equipment.

The *National Law Enforcement and Corrections Technology Center* (NLECTC), operated by a grantee, which supervises a national compliance testing program conducted by independent laboratories. The standards developed by OLES serve as performance benchmarks against which commercial equipment is measured. The facilities, personnel, and testing capabilities of the independent laboratories are evaluated by OLES prior to testing each item of equipment, and OLES helps the NLECTC staff review and analyze data. Test results are published in Equipment Performance Reports designed to help justice system procurement officials make informed purchasing decisions.

Publications are available at no charge through the National Law Enforcement and Corrections Technology Center. Some documents are also available online through the Internet/World Wide Web. To request a document or additional information, call 800-248-2742 or 301-519-5060, or write:

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P.O. Box 1160  
Rockville, MD 20849-1160  
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