

The MSDS (International Format): A Brief Summary of Canadian Requirements



Canadian Centre for Occupational Health and Safety

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This document is designed for technical users or writers of international format MSDSs who want to understand Canadian requirements. All of the subheadings (information items) required under the Controlled Products Regulations are listed below. They have been numbered and arranged under the 16 headings of the international format MSDS. Mandatory subheadings are marked with an asterisk. It should be noted that alternative arrangements of the subheadings are certainly possible and would be acceptable under Canadian WHMIS.

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Introduction

Although the terms "Material Safety Data Sheet (MSDS)" and "Safety Data Sheet (SDS)" are used internationally, different jurisdictions have different content requirements. For example, an MSDS prepared in accordance with the United States OSHA Hazard Communication Standard (HCS), does not necessarily comply with regulatory requirements in other jurisdictions.

An internationally-harmonized 16-heading MSDS format has been developed. This "international format" is proposed as the standard order by the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), which is intended to be adopted as a worldwide system, and is also documented in ANSI (American National Standards Institute) Z400.1-2004. Use of this format meets U.S. OSHA requirements (as long as all required information is included). In Canada, regulatory authorities have agreed to allow the use of the 16-heading format, provided that all of the MSDS information required under the Controlled Products Regulations is included and that a statement on the MSDS indicates that (1) the product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and (2) the MSDS contains all the information required by those regulations.

The acceptance of the international MSDS format by regulatory bodies makes it possible to incorporate the information requirements of multiple jurisdictions on one data sheet, thus simplifying the requirements for companies who sell products internationally. Caution must be exercised, however, since different jurisdictions may use slightly different definitions or criteria for flammability, toxicity, and so on. In these cases, the international MSDS must make it clear which jurisdictions' definitions have been used in preparing the information. Guidance concerning Canadian and U.S. definitions is provided

in the CCOHS publication "[The Material Safety Data Sheet - An Explanation of Common Terms](#)". The applicable regulations should also be consulted.

Content requirements for Canadian MSDSs under WHMIS (the Workplace Hazardous Materials Information System) are set out in the federal Controlled Products Regulations. Schedule I, Column III of these regulations lists 53 subheadings (information items) for material safety data sheets. Three of these are mandatory and must be disclosed in all cases: (1) the ingredients of the product, (2) the party responsible for preparing the MSDS (name and phone number) and (3) the date the sheet was prepared. All other information items must be included IF AVAILABLE AND APPLICABLE. There is no requirement for a supplier to conduct toxicological testing before classifying the material and publishing a MSDS. However, it is expected that suppliers will conduct tests for flammability, vapour pressure for compressed gases and corrosivity to metals, if data are not available.

It is generally recommended that each subheading be shown on the MSDS and "not applicable" and "not available" should be used as appropriate. It should be noted that, to prevent confusion, the abbreviation "n.a." should not be used for "not available" as some readers may interpret it to mean "not applicable."

A good quality material safety data sheet will use commonly understood language and will minimize the use of technical jargon and unexplained abbreviations.

Writers of international-format MSDSs for Canadian workplaces should consult the following documents:

- (1) ANSI Z400.1-2004 "American National Standard for Hazardous Industrial Chemicals - Material Safety Data Sheets - Preparation";
- (2) WHMIS Core Manual published by the Workers' Compensation Board of British Columbia;
- (3) WHMIS Information Bulletins published by Health Canada; and
- (4) the federal Controlled Products Regulations.

Full references are listed at the end of this document.

Note: This document is organized in the same order and format as the ANSI & GHS 16-section (Material) Safety Data Sheet. Information items to be disclosed on a Material Safety Data Sheet according to the Canadian Controlled Products Regulations (WHMIS) are indicated with *.

1. Product and Company Identification

* Product Information

- * Product identifier
- * Manufacturer's name, street address, city, province, postal code and emergency telephone number
- * Supplier identifier, supplier's street address, city, province, postal code and emergency telephone number
- * Product use

2. Hazards Identification

2.1 Emergency overview

There is no specific Canadian WHMIS requirement for this subsection.

2.2 Regulatory status

There is no specific Canadian WHMIS requirement for this subsection.

2.3 Potential health effects

Note: Information supporting conclusions provided in this section is found in Section 11-Toxicological Information

- * Route of entry (including skin contact, skin absorption, eye contact, inhalation and ingestion)
- * Effects of acute exposure to product
- * Effects of chronic exposure to product
- * Irritancy of the product
- * Sensitization to the product
- * Carcinogenicity
- * Reproductive toxicity
- * Teratogenicity
- * Mutagenicity
- * Name of toxicologically synergistic products

2.4 Potential environmental effects

There is no specific Canadian WHMIS

3. Composition/ Information on Ingredients

* Hazardous Ingredients

Section 13(a) of the Hazardous Products Act requires chemical ingredients to be specifically listed if:

- (i) they are controlled products and are present at 1.0% or more (or 0.1% or more for teratogens, embryotoxins, carcinogens, reproductive toxins, respiratory tract sensitizers and very toxic mutagens),
- (ii) they are on the WHMIS Ingredient Disclosure List, and are present at a concentration that is greater than or equal to the concentration specified on the list,
- (iii) the supplier has reasonable grounds to believe that they may be harmful to any person,

OR

- (iv) they have unknown toxicological properties

For each ingredient, the concentration expressed as percent weight/weight, percent volume/volume or percent weight/volume must be indicated. If the ingredient is not always present in the same concentration, concentration ranges can be used (acceptable ranges are specified in the Controlled Products Regulations).

* CAS Registry Number (for each ingredient) and product identification number

Confidential Business Information (Trade Secrets):

Where a claim for exemption to disclose an ingredient has been filed under the Canadian Hazardous Materials Information Review Act, the generic chemical identity of the ingredient must be disclosed on the MSDS along with the date the claim was filed and the registration number assigned by the Hazardous Materials Information Review Commission.

4. First Aid Measures

4.1 First aid Procedures

- * Specific first aid measures

4.2 Note to Physicians

There is no specific Canadian WHMIS requirement for this subsection.

5. Fire Fighting Measures

5.1 Flammable properties

- * Conditions of flammability
- * Flash point and method of determination
- * Upper flammable limit
- * Lower flammable limit
- * Auto-ignition temperature
- * Explosion data - sensitivity to mechanical impact
- * Explosion data - sensitivity to static discharge

NOTE: ANSI Z400.2-2004 indicates that these information items are basic physical properties and belong in Section 9: Physical and Chemical Properties. This section may direct the reader to Section 9 and may repeat the flammable properties here if they are considered useful in fire fighting.

5.2 Extinguishing media

5.2.1 Suitable extinguishing media

- * Means of extinction

5.2.2 Unsuitable extinguishing media

There is no specific Canadian WHMIS requirement for this subsection.

5.3 Protection of Firefighters

5.3.1 Specific hazards arising from the chemical

- * Hazardous combustion products

5.3.2 Protective equipment and precautions for firefighters

There is no specific Canadian WHMIS requirement for this subsection.

6. Accidental Release Measures

- * Procedures to be followed in case of a leak or spill

6.1 Personal precautions

6.2 Environmental precautions

6.3 Methods for containment

6.4 Methods for clean-up

6.5 Other information

7. Handling and Storage

7.1 Handling

- * Handling procedures and equipment

7.2 Storage

- * Storage requirements

8. Exposure Controls/ Personal Protection

8.1 Exposure Guidelines

- * Exposure limits

8.2 Engineering Controls

- * Specific engineering controls to be used

8.3 Personal protective equipment (PPE)

- * Personal protective equipment to be used

8.3.1 Eye/face protection

8.3.2 Skin protection

8.3.3 Respiratory protection

8.3.4 General hygiene considerations

9. Physical and Chemical Properties

- * Physical state (i.e. gas, liquid or solid)
- * Odour and appearance
- * Odour threshold
- * Specific gravity
- * Vapour pressure
- * Vapour density
- * Evaporation rate
- * Boiling point
- * Freezing point
- * pH
- * Coefficient of water/oil distribution

Note: Flammable properties from Section 5 may be listed here.

10. Stability and Reactivity

10.1 Chemical stability

10.2 Conditions to avoid

- * Conditions under which the product is chemically unstable

10.3 Incompatible materials

- * Name of any substance or class of substance with which the product is incompatible

10.4 Hazardous decomposition products

- * Hazardous decomposition products

10.5 Possibility of hazardous reactions

- * Conditions of reactivity

11. Toxicological Information

Note: The information in this section supports the conclusions provided in Section 2 - Hazards Identification

- * LD50 (species and route)
- * LC50 (species and route)
- * Effects of acute exposure to product
- * Effects of chronic exposure to product
- * Irritancy of product
- * Sensitization to product
- * Carcinogenicity
- * Reproductive toxicity
- * Teratogenicity
- * Mutagenicity
- * Name of toxicologically synergistic products

12. Ecological Information

There is no specific Canadian WHMIS requirement for this subsection.

13. Disposal Considerations

* Waste disposal

14. Transport Information

14.1 Basic shipping information

- * Special shipping information

14.2 Additional information

15. Regulatory Information

There is no specific Canadian WHMIS requirement for this subsection.

Material safety data sheets written for Canada should include a statement such as "This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations."

It is advisable to include the WHMIS classification here as well.

16. Other Information

- * Preparation Information
- * Name and phone number of the group, department, or party responsible for the preparation of the MSDS
- * Date of preparation of the MSDS

Useful Sources Of Additional Information

ANSI Z400.1 - 2004. American National Standard for Hazardous Industrial Chemicals - Material Safety Data Sheets - Preparation. American National Standards Institute, 2004.

Controlled Products Regulations. Available at: <<http://laws.justice.gc.ca/en/H-3/SOR-88-66/fulltoc.html>>

Hazardous Products Act. Available at: <<http://laws.justice.gc.ca/en/H-3/index.html>>

Ingredient Disclosure List. Available at: <<http://laws.justice.gc.ca/en/H-3/64202.html#rid-64275>>

WHMIS Core Material: A resource manual for the application and implementation of WHMIS. Workers' Compensation Board of British Columbia, 2001. Available at: <www.worksafebc.com/publications/health_and_safety/whmis/pub_40_20_20_20.asp>

WHMIS Information. Available from Health Canada, National Office of the Workplace Hazardous Materials Information System, at: <www.hc-sc.gc.ca/ewh-semt/occup-travail/whmis-simdut/index_e.html>