



# Dangerous Goods Advisory Notice

TP 9554E  
Volume 6

## MEANS OF CONTAINMENT

The *Transportation of Dangerous Goods (TDG) Act, Regulations* and standards require dangerous goods to be contained in a safe means of containment. A safe means of containment prevents the release of dangerous goods that could constitute a danger to life, health, property or the environment under normal conditions of transport. A means of containment is a container or packaging, or any part of a means of transport that is, or may be used, to contain goods.

The TDG Regulations may refer to other regulations or standards for the manufacturing, selection and use of a means of containment for dangerous goods.

Regulations and standards may be specific to a class of dangerous goods, means of containment or mode of transport.

This Advisory Notice identifies the types of means of containment used for dangerous goods; assists in the selection of a means of containment; describes the certification safety marks and makes reference to other regulations based on the mode of transport chosen and the destination.

### **The Types of Means of Containment:**

Small means of containment are containers with a water capacity of 450L or less. They may be drums, jerricans, boxes, pails, bags, barrels, cylinders or intermediate bulk containers.

Large means of containment are containers with a water capacity greater than 450L. They may be highway tanks, tank cars, intermediate bulk containers, portable tanks or tubes.

### **The Selection of a Means of Containment for Dangerous Goods:**

Several factors influence the selection of a means of containment, such as:

- Class of dangerous goods;
- Type and size of the means of containment;
- Mode of transport; and
- Destination.

The following table summarizes the requirements of Part 5, Means of Containment, for the manufacturing, selection and use of a means of containment. With the factors listed above, this table will determine the applicable standard or regulation for the means of containment chosen.



<b>Class(es) of dangerous goods</b>	<b>Means of containment</b>	<b>Mode of transport</b>	<b>Applicable standard or regulation</b>
1	any	road/ rail/ marine air	CAN/CGSB-43.151-97 & CAN/CGSB-43.150-97 CAN/CGSB-43.150-97 & International Civil Aviation Organization (ICAO) Technical Instructions
2 2.1 & 2.2	cylinder and tube aerosol containers	road/ rail/ marine/ air road/ rail/ marine/ air	CAN/CSA-B339-96 & CAN/CSA-B340-97 CAN/CGSB-43.123-M86 CAN/CGSB-43.123-M86 & International Civil Aviation Organization (ICAO) Technical Instructions
2	highway tank tank car	road/ marine rail/ marine	CAN/CSA-B620-98 & CAN/CSA-B622-98 CAN/CGSB-43.147-97
2	portable tank	road  rail  marine	International Maritime Dangerous Goods (IMDG) Code or CAN/CSA-B620-98 & CAN/CSA-B622-98 International Maritime Dangerous Goods (IMDG) Code or CAN/CGSB-43.147-97 International Maritime Dangerous Goods (IMDG) Code or CAN/CGSB-43.147-97 or CAN/CSA-B620-98 & CAN/CSA-B622-98
3, 4, 5, 6.1, 8 & 9	small means of containment*	road/ rail/ marine  air	CAN/CGSB-43.150-97, CAN/CGSB-43.146-94 or non-UN means of containment** CAN/CGSB-43.150-97 or CAN/CGSB-43.146-94 & International Civil Aviation Organization (ICAO) Technical Instructions
3, 4, 5, 6.1, 8 & 9	highway tank tank car	road rail/ marine	CAN/CSA-B620-98 & CAN/CSA-B621-98 CAN/CGSB-43.147-97
3, 4, 5, 6.1, 8 & 9	portable tank	road  rail  marine  air	International Maritime Dangerous Goods (IMDG) Code, or CFR 49 (Code of Federal Regulations, title 49) or CAN/CSA-B620-98 & CAN/CSA-B621-98 International Maritime Dangerous Goods (IMDG) Code, or CFR 49 (Code of Federal Regulations, title 49) or CAN/CGSB-43.147-97 International Maritime Dangerous Goods (IMDG) Code, or CFR 49 (Code of Federal Regulations, title 49) or CAN/CSA-B620-98 & CAN/CSA-B621-98, or CAN/CGSB-43.147-97 Part 12 - TDGR
3, 4, 5, 6.1, 8 & 9	Intermediate Bulk Container (IBC)	road/ rail/ marine  air	CAN/CGSB-43.146-94, or CAN/CSA-B616-M1989**, or non-UN means of containment** Part 12 - TDGR
6.2	any	road/ rail/ marine air	CAN/CGSB-43.125-99 CAN/CGSB-43.125-99 & International Civil Aviation Organization (ICAO) Technical Instructions
7	any	road/ rail/ marine  air	Packaging and Transport of Nuclear Substances Regulations Packaging and Transport of Nuclear Substances Regulations & International Civil Aviation Organization (ICAO) Technical Instructions

- \* A means of containment with a water capacity of 450L or less.
- \*\* A means of containment designed, constructed, filled, closed, secured and maintained so that under normal conditions of transport, including handling, there will be no accidental release of dangerous goods that could endanger public safety. (Most are fibreboard boxes and plastic pails). Non-UN means of containment may be used until December 31, 2002.

## **The Certification Safety Marks on a Means of Containment**

All standardized means of containment bear certification safety marks to indicate that they were manufactured in compliance with a standard. A certification safety mark is any design, symbol, device, letter, word, number or abbreviation that is displayed on a means of containment or means of transport to indicate compliance with a safety standard.

To remain in standard, some means of containment must be periodically inspected, tested and marked at intervals specified by the standard or regulation. These marks describe what, when and by whom the inspections and tests were performed.

All certification safety marks must be durable, visible, legible and easily accessible for inspection.

Most means of containment standards in Canada are based on the UN Recommendations. UN standardized means of containment are internationally recognized and can be used anywhere in the world and by any mode of transport. However, some means of containment standards are specific to Canada, as no international standards exist. Cylinders, tubes, highway tanks, some portable tanks and tank car tanks are examples of these “TC” standardized means of containment. These means of containment can be used in Canada and sometimes in the United States if the specification to which they are manufactured corresponds to American standards (DOT specification).

## **Mode of Transport / Destination**

There may be additional packaging requirements based on the mode of transport or destination. Refer to the appropriate regulation for more information.

The International Civil Aviation Organization Technical Instructions (ICAO Technical Instructions), must be consulted for air transport requirements.

The International Maritime Dangerous Goods Code (IMDG Code) must be consulted for segregation requirements and international marine transport.

The Code of Federal Regulations, Title 49, (CFR 49), must be consulted for road and rail shipments to the United States.

**This advisory notice provides a general outline of the means of containment requirements. For specific information, the Act, Regulations and/or Standards must be consulted.**