

PART 5

Means of Containment

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Definitions

Definitions for the following terms, used in this Part, are provided in Part 1, Coming into Force, Repeal, Interpretation, General Provisions and Special Cases:

<i>accidental release</i>	<i>handling</i>	<i>railway vehicle</i>
<i>aerosol container</i>	<i>IMDG Code</i>	<i>road vehicle</i>
<i>aircraft</i>	<i>IMDG Code, 29th Amendment</i>	<i>safety requirements</i>
<i>capacity</i>	<i>import</i>	<i>safety standards</i>
<i>Category A</i>	<i>infectious substance</i>	<i>ship</i>
<i>Category B</i>	<i>in standard</i>	<i>small means of containment</i>
<i>certification safety mark</i>	<i>in transport</i>	<i>standardized means of containment</i>
<i>49 CFR</i>	<i>large means of containment</i>	<i>subsidiary class</i>
<i>class</i>	<i>liquid</i>	<i>substance</i>
<i>compatibility group</i>	<i>means of containment</i>	<i>tube</i>
<i>culture</i>	<i>means of transport</i>	<i>Type IA means of containment</i>
<i>cylinder</i>	<i>net explosives quantity</i>	<i>Type IB means of containment</i>
<i>dangerous goods</i>	<i>offer for transport</i>	<i>Type IC means of containment</i>
<i>flash point</i>	<i>packing group</i>	<i>UN Recommendations</i>
<i>gas</i>	<i>person</i>	<i>UN standardized means of containment</i>
<i>gross mass</i>	<i>public safety</i>	

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5.1 Selecting and Using Means of Containment

- (1) A person must not handle, offer for transport, transport or import dangerous goods in a means of containment unless the means of containment is required or permitted by this Part to be used for the transportation of the dangerous goods.
- (2) A person must not handle, offer for transport or transport dangerous goods in a standardized means of containment unless the standardized means of containment is in standard.
- (3) A person must not handle, offer for transport or transport dangerous goods in a means of containment that is required or permitted by this Part unless the means of containment is designed, constructed, filled, closed, secured and maintained so that under normal conditions of transport, including handling, there will be no accidental release of the dangerous goods that could endanger public safety.

5.2 Requirements for a Standardized Means of Containment to Be in Standard

A standardized means of containment is in standard with a specific safety standard if it has displayed on it the certification safety marks required by the standard and

- (a) was in compliance with the requirements of the standard when each certification safety mark was first displayed; and
- (b) remains in compliance with the requirements of the standard that had to be complied with when each certification safety mark was first displayed.

5.3 Certification Safety Marks on a Means of Containment

Any mark required by a safety standard is a certification safety mark and must be visible and legible when it is displayed on a means of containment.

Under section 8 of the Act, a person must not sell, offer for sale, deliver, distribute, import or use a standardized means of containment unless it has displayed on it all the applicable prescribed safety marks.

5.4 Loading and Securing

A person must load and secure dangerous goods in a means of containment and must load and secure the means of containment on a means of transport in such a way as to prevent, under normal conditions of transport, damage to the means of containment or to the means of transport that could lead to an accidental release of the dangerous goods.

5.5 Filling Limits

The person filling a means of containment with dangerous goods

- (a) must not exceed the maximum quantity limit for the means of containment established by the manufacturer or set out in a safety standard for the means of containment, whichever is the lesser; and
- (b) must ensure that the means of containment could not become liquid full at any temperature less than or equal to 55°C.

5.6 UN Standardized Means of Containment

A means of containment is a UN standardized means of containment if it has displayed on it the applicable UN marks illustrated in Chapter 6.1, Chapter 6.3 and Chapter 6.5 of the UN Recommendations and

- (a) it is in compliance with
 - (i) sections 2, 3, 4 and 7 of CGSB-43.125,
 - (ii) sections 2 to 11 of CGSB-43.146, or
 - (iii) sections 2 and 3 and Part I of CGSB-43.150; or
- (b) it was manufactured outside Canada in compliance with Chapter 6.1, 6.3 or 6.5 of the UN Recommendations and with the national regulations of the country of manufacture.

CLASS I • EXPLOSIVES

5.7 Compatibility Groups

- (1) A person must not load or transport with other explosives in the same means of transport, except for a ship, explosives that have a compatibility group letter listed in column 1 of a row in the following TABLE I unless the compatibility group letter of the other explosives is listed in column 2 of the same row:

TABLE I	
COLUMN 1	COLUMN 2
A	A
B	B, S
C	C, D, E, N, S
D	C, D, E, N, S
E	C, D, E, N, S
F	F, S
G	G, S
H	H, S
J	J, S
K	K, S
L	L
N	C, D, E, N, S
S	B, C, D, E, F, G, H, J, K, N, S

- (2) For a mixed load of two or more explosives with compatibility groups C, D, E, N or S, the compatibility group of the mixed load is the first compatibility group of E, D, C, N or S present in the mixed load.
- (3) Despite subsection (1), detonators in compatibility group B may be loaded or transported in the same road vehicle with explosives in compatibility group D or N. The compatibility group of the mixed load is D.
- (4) Despite subsection (1), explosive articles included in compatibility group G, except for fireworks with UN number UN0333, UN0334, UN0335 or UN0336, may be loaded or transported in the same road vehicle together with explosive articles included in compatibility group C, D or E. The compatibility group of the mixed load is E.
- (5) For a mixed load of two explosives with one of the compatibility groups being S, the compatibility group of the mixed load is that of the other compatibility group.

5.8 Means of Containment for Class I, Explosives

A person must use a means of containment that is in standard with CGSB-43.151 to contain dangerous goods in transport that are included in Class I, Explosives.

5.9 Repealed [SOR/2008-34]

CLASS 2 • GASES

5.10 Means of Containment for Class 2, Gases

- (1) A person must not handle, offer for transport or transport dangerous goods included in Class 2, Gases, in a means of containment unless the means of containment is manufactured, selected and used in accordance with
 - (a) for transport by road vehicle,
 - (i) CSA B340, except clauses 4.1.1.1, 5.1.3(a)(ii) and 5.1.4(a),
 - (ii) CSA B622 and, despite any indication to the contrary in CSA B620, Appendix B of CSA B620, or
 - (iii) if the means of containment is a type 5 or type 7 portable tank, the requirements of Section 13 of Volume I, General Introduction, of the IMDG Code, 29th Amendment;
A type 5 and a type 7 portable tank are described in the IMDG Code, 29th Amendment.
 - (b) for transport by railway vehicle,
 - (i) CSA B340, except clauses 4.1.1.1, 5.1.3(a)(ii) and 5.1.4(a),
 - (ii) CGSB-43.147, or
 - (iii) if the means of containment is a type 5 or type 7 portable tank, the requirements of Section 13 of Volume I, General Introduction, of the IMDG Code, 29th Amendment, and the requirements for the dynamic longitudinal impact test in section 7 of CGSB-43.147;
A type 5 and a type 7 portable tank are described in the IMDG Code, 29th Amendment.
 - (c) for transport by aircraft, CSA B340, except clauses 4.1.1.1, 5.1.3(a)(ii) and 5.1.4(a);
 - (d) for transport by ship,
 - (i) CSA B340, except clauses 4.1.1.1, 5.1.3(a)(ii) and 5.1.4(a),
 - (ii) CSA B622 and, despite any indication to the contrary in CSA B620, Appendices A and B of CSA B620,
 - (iii) CGSB-43.147, or
 - (iv) if the means of containment is a type 5 or type 7 portable tank, the requirements of Section 13 of Volume I, General Introduction, of the IMDG Code, 29th Amendment.
A type 5 and a type 7 portable tank are described in the IMDG Code, 29th Amendment.
- (2) In addition to complying with the requirements in subparagraphs (1)(a)(i) and (1)(b)(i), paragraph (1)(c) and subparagraph (1)(d)(i), a person who uses a means of containment that is a cylinder or tube to handle, offer for transport or transport dangerous goods included in Class 2, Gases, must use a cylinder or tube that was
 - (a) manufactured in accordance with CSA B339;
 - (b) authorized for continued use under sections 7.32 and 8.4.2 of the "Transportation of Dangerous Goods Regulations" in effect on January 1, 2001, and the conditions in those sections are complied with; or
 - (c) manufactured before January 1, 1993 in accordance with a specification for cylinders set out in 49 CFR and has displayed on it requalification marks as required by CSA B339 or 49 CFR, except a cylinder manufactured in accordance with
 - (i) 49 CFR specification DOT-3B, DOT-3BN, DOT-3E, DOT-4AA480, DOT-4B, DOT-4B240ET, DOT-4BA, DOT-4BW, DOT-4D, DOT-4E, DOT-4L, DOT-8 or DOT-8AL, or
 - (ii) 49 CFR specification DOT-39, if the cylinder has a service pressure less than or equal to 6.2 MPa (900 psig).

- (3) A person must not handle, offer for transport or transport in Canada a cylinder that
 - (a) despite clause 6.5 of CSA B340, was manufactured in a foreign country, other than a cylinder referred to in subsection (2), unless it is being transported directly from a port of entry to the nearest location for filling or storage or is being transported directly from the filling or storage location back to the port of entry for export; or
 - (b) contains any dangerous goods listed in Table 5.6 of CSA B340 that are in pure form or that are part of mixtures included in Class 2.3 if the means of containment is an aluminum alloy cylinder manufactured before August 1990.
- (4) An inspector referred to in CSA B339 who prepares a certificate of compliance and test report that is referred to in clause 4.18 of that standard must give a copy of the report to the manufacturer of the means of containment. The inspector and the manufacturer must each keep a copy of the report for 3 years for a means of containment that is a specification TC-39M cylinder and for 15 years for all other means of containment.

ATC-39M cylinder is described in CSA B339.

- (5) A person who prepares a report of requalification, repair, reheat treatment or rebuilding referred to in clause 24.7 of CSA B339 must give a copy of the report to the owner of the means of containment. The owner and the person who prepared the report must each keep a copy of the report for 10 years. If, during that 10 years, the owner of the means of containment transfers ownership to another person, the owner must give a copy of the report to that person.
- (6) In addition to the requirements of subparagraphs (1)(a)(ii) and (d)(ii), a person who uses a standardized means of containment that is required, by CSA B622, to offer for transport dangerous goods included in Class 2, Gases, must use a means of containment
 - (a) manufactured in accordance with CSA B620 if the means of containment is manufactured in Canada on or after August 31, 2008; and
 - (b) tested and inspected in accordance with CSA B620 when the most recent periodic re-test or periodic inspection is performed in Canada on or after August 31, 2008.

5.11 Aerosol Containers for Class 2, Gases

- (1) Despite section 5.10, a person may use an aerosol container to handle, offer for transport or transport a gas that is included in Class 2.1 or Class 2.2 if the internal pressure in the aerosol container at 55°C when filled for transport with the gas is within one of the pressure ranges listed in column 1 of the following TABLE 2 and the aerosol container is in compliance with the condition in column 2 that corresponds to the pressure range:

TABLE 2
PRESSURE RANGES / CONDITIONS

COLUMN 1 Pressure Ranges	COLUMN 2 Conditions
greater than 0 kPa but less than or equal to 965 kPa	(a) meets the following requirements: (i) is capable of withstanding an internal pressure equal to 1.5 times the equilibrium pressure of the gas at 55°C, and (ii) has a capacity less than or equal to 1 L; (b) is in standard with CGSB-43.123 concerning the requirements for specification TC-2P; or (c) is in standard with CGSB-43.123 concerning the requirements for specification TC-2Q
greater than 965 kPa but less than or equal to 1 105 kPa	(a) is in standard with CGSB-43.123 concerning the requirements for specification TC-2P; or (b) is in standard with CGSB-43.123 concerning the requirements for specification C-2Q
greater than 1 105 kPa but less than or equal to 1 245 kPa	is in standard with CGSB-43.123 concerning the requirements for specification TC-2Q

- (2) After a person fills an aerosol container and before it is placed in transport, the aerosol container must be tested by submersion in a hot bath so that the contents are heated to 55°C. If, when subjected to this test, the aerosol container leaks, becomes permanently deformed or displays any other defects, it must not be used to transport dangerous goods.
- (3) The temperature referred to in subsection (2) may be reduced to 50°C if the aerosol container is no more than 95 per cent liquid full at 50°C.
- (4) If a substance to be contained in an aerosol container deteriorates by heat at 55°C, the aerosol container may be tested by submersion in a hot bath so that the contents are heated to 20°C, rather than to the temperature referred to in subsection (2) or (3). In addition, the test in subsection (2) must be conducted on a sample from every production run of 2 000 or fewer aerosol containers.
- (5) If a sample referred to in subsection (4) leaks, becomes permanently deformed or displays any other defect, the run of 2 000 or fewer aerosol containers from which the sample was taken must not be used to transport dangerous goods.
- (6) For transport, each aerosol container must be equipped with a valve protection cap and must be tightly packed in a wood, fibreboard or plastic box. The gross mass of each box must be less than or equal to 30 kg.
- (7) Despite subsections (1) to (6) and section 5.10, an aerosol container that is required by 49 CFR to be used to transport dangerous goods and that is filled with dangerous goods in the United States in accordance with 49 CFR may be transported in Canada.



CLASSES 3, 4, 5, 6.1, 8 AND 9 • DANGEROUS GOODS

5.12 Small Means of Containment

Beginning on January 1, 2003, all small means of containment used to contain dangerous goods included in Class 3, 4, 5, 6.1, 8 or 9 must be UN standardized means of containment. For small means of containment manufactured or marked in Canada, this is achieved by compliance with CGSB-43.146 or CGSB-43.150. These are the Canadian standards for UN means of containment for dangerous goods in Class 3, 4, 5, 6.1, 8 or 9. Non-UN means of containment, such as TC or DOT specification drums made before 2003, may be converted to the UN standards if they meet the requirements in CGSB-43.150.

- (1) A person must not handle, offer for transport or transport dangerous goods included in Class 3, 4, 5, 6.1, 8 or 9 in a small means of containment unless it is a UN standardized means of containment selected and used in accordance with sections 2, 3, 12 and 13 of CGSB-43.146 or sections 2 and 3 and Part II of CGSB-43.150.
- (2) A person must not reuse a steel or plastic drum that has an internal volume greater than or equal to 150 L to handle, offer for transport or transport dangerous goods that are liquid and are included in Class 3, 4, 5, 6.1, 8 or 9 unless
 - (a) for steel drums, the requirements for the reuse of steel drums in section 18 of CGSB-43.150 are complied with except that, when CGSB-43.126-94 is referred to in CGSB-43.150, CGSB-43.126 must be complied with; or
 - (b) for plastic drums, beginning January 1, 2003, the requirements for reuse of plastic drums in Part II of CGSB-43.126 are complied with.
- (3) A person may, before August 15, 2005, offer for transport or transport dangerous goods in a small means of containment required or permitted by the "Transportation of Dangerous Goods Regulations" in force on August 14, 2002 if the dangerous goods were placed in the small means of containment on or before August 14, 2002.

5.13 Transitional Provision: Small Means of Containment

Despite section 5.12, until December 31, 2002, a person may handle, offer for transport or transport dangerous goods included in Class 3, 4, 5, 6.1, 8 or 9 in a small means of containment that is not a UN standardized means of containment except that a cylinder or tube must be in compliance with paragraph 5.10(2)(a), (b) or (c).

5.14 Large Means of Containment

- (1) A person must not handle, offer for transport or transport dangerous goods included in Class 3, 4, 5, 6.1, 8 or 9 in a large means of containment unless it is manufactured, selected and used in accordance with
 - (a) for transport by road vehicle,
 - (i) if the means of containment is a UN standardized means of containment, the requirements of sections 2, 3, 12 and 13 of CGSB-43.146,
 - (ii) CSA B621 and, despite any indication to the contrary in CSA B620, Appendices A and B of CSA B620,
 - (iii) if the means of containment is a type 1 or type 2 portable tank, the requirements of Section 13 of Volume I, General Introduction, of the IMDG Code, 29th Amendment.
A type 1 and a type 2 portable tank are described in the IMDG Code, 29th Amendment.
 - (iv) if the means of containment is an IM 101 or IM 102 portable tank, the requirements of Subpart B of Part 172 and section 173.32 of 49 CFR;
An IM 101 and an IM 102 portable tank are described in 49 CFR.

- (b) for transport by railway vehicle,
 - (i) if the means of containment is a UN standardized means of containment, the requirements of sections 2, 3, 12 and 13 of CGSB-43.146,
 - (ii) CGSB-43.147,
 - (iii) if the means of containment is a type 1 or type 2 portable tank, the requirements of Section 13 of Volume I, General Introduction, of the IMDG Code, 29th Amendment, and the requirements for the dynamic longitudinal impact test in section 7 of CGSB-43.147
A type 1 and a type 2 portable tank are described in the IMDG Code, 29th Amendment.
 - (iv) if the means of containment is an IM 101 or IM 102 portable tank, the requirements of Subpart B of Part 172 and section 173.32 of 49 CFR and of the dynamic longitudinal impact test in section 7 of CGSB-43.147;
An IM 101 and an IM 102 portable tank are described in 49 CFR.
 - (c) for transport by aircraft, Part 12, Air, of these Regulations; and
 - (d) for transport by ship,
 - (i) if the means of containment is a UN standardized means of containment, the requirements of sections 2, 3, 12 and 13 of CGSB-43.146,
 - (ii) CGSB-43.147,
 - (iii) CSA B621 and, despite any indication to the contrary in CSA B620, Appendix B of CSA B620,
 - (iv) if the means of containment is a type 1 or type 2 portable tank, the requirements of Section 13 of Volume I, General Introduction, of the IMDG Code, 29th Amendment
A type 1 and a type 2 portable tank are described in the IMDG Code, 29th Amendment.
 - (v) if the means of containment is an IM 101 or IM 102 portable tank, the requirements of Subpart B of Part 172 and section 173.32 of 49 CFR.
- 2) In addition to the requirements of subparagraphs (1)(a)(ii) and (d)(iii), a person who uses a standardized means of containment that is required by CSA B621 to offer for transport dangerous goods included in Class 3, 4, 5, 6.1, 8 or 9 must use a means of containment
- (a) manufactured in accordance with CSA B620 if the means of containment was manufactured in Canada on or after August 31, 2008; and
 - (b) tested and inspected in accordance with CSA B620 when the most recent periodic re-test or periodic inspection is performed in Canada on or after August 31, 2008.
- (3) Despite clause 2.1.6 of CGSB-43.147, every reference in CGSB-43.147 to the Association of American Railroads publication M-1002-2000, "Specifications for Tank Cars", must be read as M-1002-2003, "Specifications for Tank Cars", published by the Association of American Railroads, October 2003.
- (4) The requirements of clause 30.8.2 of CGSB-43.147 do not apply to
- (a) UN2448, MOLTEN SULFUR;
 - (b) UN3257, ELEVATED TEMPERATURE LIQUID, N.O.S.; or
 - (c) UN3258, ELEVATED TEMPERATURE SOLID, N.O.S.

5.14.1 Changes to CSA B620

For the purpose of subparagraphs 5.14 (a)(ii) and (d)(iii)

- (a) the wording of clause 7.2.10.5 d) of CSA B620 must be replaced by the following: "clause c) does not apply to hoses used to handle aircraft fuel."
- (b) the wording of the note to Table 7.1 of CSA B620, Periodic Inspection and Test Intervals, that is indicated by the symbol "‡" must be replaced by the following: "Highway tanks used to fuel aircraft and that operate only on airport property are exempt from internal inspection if they are clearly marked on each side with the words "Dedicated Aviation Refueller Restricted to Use on Airport Property" and the words are clearly visible from the ground, in letters that are not less than 25 mm high and in a colour that contrasts with the colour of the tank"; and
- (c) clause 8.1.4.3 b) of CSA B620 does not apply to an application for registration as a facility for the manufacture, modification, assembly, testing, repair or inspection of tanks in accordance with CSA B620.

| 5.15 Repealed [SOR/2008-34]

CLASS 6.2 • INFECTIOUS SUBSTANCES

5.16 Means of Containment for Class 6.2, Infectious Substances

- (1) A person must handle, offer for transport or transport dangerous goods included in Category A or Category B of Class 6.2, Infectious Substances, in a means of containment listed for them in column 2, 3 or 4 of the table to this section.
- (2) Despite subsection (1), a Type 1A means of containment may be used in all cases.

Type 1A, 1B and 1C means of containment are defined in Part 1, Coming into Force, Interpretation, General Provisions and Special Cases

TABLE 5
MEANS OF CONTAINMENT FOR INFECTIOUS SUBSTANCES

ITEM	COLUMN 1 Category	COLUMN 2 Means of containment for cultures	COLUMN 3 Means of containment for biological substances	COLUMN 4 Means of containment for infectious substances intended for disposal
1.	Category A	1A	1B except for the following substances which must be contained in a 1A means of containment: (a) Crimean-Congo Hemorrhagic fever virus; (b) Ebola virus; (c) Flexal virus; (d) Guanarito virus; (e) Hantaviruses causing hemorrhagic fever with renal syndrome; (f) Hantaviruses causing pulmonary syndrome; (g) Hendra virus; (h) Herpes B virus (Cercopithecine Herpesvirus-1) (i) Junin virus; (j) Kyasanur Forest virus; (k) Lassa virus; (l) Machupo virus; (m) Marburg virus; (n) Monkeypox virus; (o) Nipah virus; (p) Omsk hemorrhagic fever virus; (q) Russian Spring-summer encephalitis virus (r) Sabia virus; and (s) Variola (smallpox virus).	1C except for the following substances which must be contained in a 1A means of containment: (a) Crimean-Congo Hemorrhagic fever virus; (b) Ebola virus; (c) Flexal virus; (d) Guanarito virus; (e) Hantaviruses causing hemorrhagic fever with renal syndrome; (f) Hantaviruses causing pulmonary syndrome; (g) Hendra virus; (h) Herpes B virus (Cercopithecine Herpesvirus-1) (i) Junin virus; (j) Kyasanur Forest virus; (k) Lassa virus; (l) Machupo virus; (m) Marburg virus; (n) Monkeypox virus; (o) Nipah virus; (p) Omsk hemorrhagic fever virus; (q) Russian Spring-summer encephalitis virus (r) Sabia virus; and (s) Variola (smallpox virus).
2.	Category B	1B	1B	1C

5.16.1 Additional Requirements for Type 1B Means of Containment

A Type 1B means of containment must be

- (a) capable of passing
 - (i) for liquid substances, the internal pressure test set out in section 4.4 of CGSB-43.125, and
 - (ii) the drop test set out in section 4.5 of CGSB-43.125 except that the height of the drop test may be 1.2 m;
- (b) in compliance with clause 4.2.1 (iii) of CGSB-43.125 regarding the requirements for multiple primary means of containment in a single secondary means of containment except that only fragile primary means of containment must be separated or wrapped individually; and
- (c) in compliance with the requirements in section 4.2.2.1 of CGSB-43.125 when it contains a means of cooling the contents.

CLASS 7 • RADIOACTIVE MATERIALS

5.17 Means of Containment for Class 7, Radioactive Materials

A person must not handle, offer for transport or transport dangerous goods included in Class 7, Radioactive Materials, in a means of containment unless the means of containment is in compliance with the “Packaging and Transport of Nuclear Substances Regulations”.