LET'S TALK
Transportation of
Dangerous Goods

Preliminary Consultation on International Harmonization Updates to the *Transportation of Dangerous Goods Regulations*

Contents

Introduction

Transport Canada (TC) is currently consulting on proposed amendments to the *Transportation of Dangerous Goods Regulations* (TDGR). The TDGR are updated on a regular basis to harmonize, to the greatest extent possible, with the *United Nations Model Regulations on the Transport of Dangerous Goods* (UN Recommendations), the *International Civil Aviation Organization Technical Instructions* (ICAO TIs), the *International Maritime Dangerous Goods Code* (IMDG Code) and to harmonize requirements with the United States (US) under the Regulatory Cooperation Council (RCC) work plan. Such harmonization ensures consistency between the different modes of transport, facilitates international trade of dangerous goods and reduces regulatory burden on Canadian consignors and carriers who deal with dangerous goods in Canada. The proposed amendments have the following objectives:

First, to harmonize with international regulatory requirements by updating the TDGR to incorporate changes introduced in the 20th edition of the UN Recommendations, the IMDG Code 2018 and the 2019-2020 ICAO TIs with respect to safety marks, classification information, shipping names and special provisions.

Second, to reduce regulatory barriers to cross-border trade with the U.S., TC is proposing to increase reciprocity with US regulatory requirements for dangerous goods safety marks and transportation by road and rail.

We invite comments on the proposed amendments contained in the document below. Please send your comments in writing, on or before May 27th 2019, to:

Regulatory Affairs Branch
Transportation of Dangerous Goods
Transport Canada
Place de Ville, Tower, 330 Sparks Street
Ottawa, Ontario, Canada, K1A 0N5
E-mail: TDGRegulatoryProposal-TMDPropositionReglementaire@tc.gc.ca

1. Alignment with International Requirements

The proposed amendments presented in this document are aimed at aligning the TDGR with the 20th edition of the UN Recommendations. Since the 21st edition will be published in Spring/Summer 2019, TC will develop additional proposals that will take into account changes made in the 21st edition. These additional proposals will be included in the proposed regulations for international harmonization updates to the TDGR when they are published in the *Canada Gazette*, Part I, for public comment.

1.1. How to Write a Shipping Name

The proper shipping name of a dangerous good is the name which most accurately describes the dangerous goods. This is indicated in column 2 of Schedule 1, shown in upper case letters. The shipping name can be supplemented with "qualifying words" in order to communicate readily important characteristics of the dangerous good. Modifications to the shipping name are permitted under Part 1 (Coming into Force, Repeal, Interpretation, General provisions and Special Cases) of the TDGR.

For example, dangerous goods that are solutions or mixtures may have their shipping names followed by the word "SOLUTION" or "MIXTURE". Similarly, the word "WASTE" may be added if transporting dangerous goods waste.

To improve hazard communication and align more closely with international regulations, including the UN Recommendations, ICAO, IMDG Code, and the 49 CFR, the following qualifying words would be added to the list of those permitted in Part 1: "MOLTEN", "STABILIZED" and "TEMPERATURE CONTROLLED".

Proposed Text
1.3 Interpretation **(1)** Anything written in italics in these Regulations is not part of the Regulations. **(2)** In these Regulations, **(d)** shipping names listed in Schedule 1 may be (i) written in the singular or plural, (ii) written in upper or lower case letters, except that when the shipping name is followed by the descriptive text associated with the shipping name the descriptive text must be in lower case letters and the shipping name must be in upper case letters (capitals), (iii) in English only, put in a different word order as long as the full shipping name is used and the word order is a commonly used one; and *For example, "AMMONIA, ANHYDROUS" may be written "ANHYDROUS AMMONIA" and "SULPHUR, MOLTEN" may be written "MOLTEN SULPHUR".* ~~(iv) for solutions and mixtures, followed by the word "SOLUTION" or "MIXTURE", as appropriate, and may include the concentration of the solution or mixture; and~~ ~~(v) for waste, preceded or followed by the word "WASTE" or "DÉCHET";~~ (iv) preceded or followed by the following qualifying words, unless these words are already part of the shipping name: (A) "SOLUTION" or "MIXTURE" ", as appropriate, and may include the concentration of the solution or mixture, for solutions and mixtures; (B) "WASTE" or "DÉCHET", for waste; (C) "MOLTEN", for substances which are solids offered in the molten state; (D) "STABILIZED", except for self-reactive substances and organic peroxides, for substances which, without stabilization would be liable to dangerously react under conditions normally encountered in transport; (E) "TEMPERATURE CONTROLLED", for substances which temperature control is used to stabilize them to prevent the development of any dangerous excess pressure or the evolution of excessive heat, or when chemical stabilization is used in combination with temperature control;

1.2. Requirements for Shipping Documents

TC is proposing several changes to Part 3 (Documentation) to clarify requirements and align with the UN Recommendations.

1.2.1. Dangerous Goods Description

To align with the UN Recommendations, text would be added to clarify that information that is not specifically identified as required in the description of the dangerous goods may not be included. This also aligns with the requirements in the US *Hazardous Materials Regulations* (49 CFR).

Within the requirements for information on a shipping document, the UN Recommendations make reference to section 3.1.2 where information regarding what to include in a shipping name is found. This information is helpful for the reader. TC proposes to add a similar reference to direct the reader to the shipping name information in Part 1 (Coming into Force, Repeal, Interpretation, General provisions and Special Cases) when filling out a shipping document. This would also align with the way the requirements are presented in the US 49 CFR.

Proposed Text
3.5 Information on a shipping document **(1)** The following information must be included on a shipping document: **(a)** the name and address of the place of business in Canada of the consignor; **(b)** the date the shipping document or an electronic copy of it was prepared or was first given to a carrier; **(c)** the description of each of the dangerous goods, in the following order, with no additional information interspersed, unless otherwise specified in these Regulations: **(i)** the UN number, **(ii)** the shipping name, in accordance with paragraph 1.3(d), and, **(A)** the word "HOT" immediately before the shipping name, unless the word MOLTEN or ELEVATED TEMPERATURE is already part of the shipping name, for a substance: (i) in the liquid state at a temperature at or above 100°C; (ii) in the liquid state with a flashpoint above 60°C and which is intentionally heated to a temperature above its flashpoint; or (iii) in a solid state and a temperature at or above 240°C; **(B)** immediately after the shipping name unless it is already part of it, **(i)** for dangerous goods that are subject to special provision 16, the technical name, in parentheses, of at least one of the most dangerous substances that predominantly contributes to the hazard or hazards posed by the dangerous goods, and **(ii)** for a liquefied petroleum gas that has not been odorized, the words "Not Odourized" or "Not Odorized"or "Sans odorisant", **(iii)** the primary class, which may be shown as a number only or under the heading "Class" or "Classe" or following the word "Class" or "Classe", **(iv)** for dangerous goods with a primary class of Class 1, Explosives, the compatibility group letter following the primary class, **(v)** the subsidiary class or classes, in parentheses, which may be shown as a number only or under the heading "subsidiary class" or "classe subsidiaire" or following the words "subsidiary class" or "classe subsidiaire", except that, for transport by aircraft or by vessel, the subsidiary class or classes may be shown after the information required by this paragraph, **(vi)** the packing group roman numeral, which may be shown under the heading "PG" or "GE" or following the letters "PG" or "GE" or following the words "Packing Group" or "Groupe d'emballage", and **(vii)** for dangerous goods that are subject to special provision 23, the words "toxic by inhalation" or "toxic – inhalation hazard" or "toxique par inhalation" or "toxicité par inhalation";

1.2.2. Requirements for Dangerous Goods Safety Marks

TC is proposing to add requirements to Part 4 (Dangerous Good Safety Marks) to provide clarity and further align with requirements in the 20th edition of the UN Recommendations.

1.2.3. Borders on Labels and Placards

A label or a placard may have either a dotted or a solid line outer border, but this is not specifically stated in the TDGR. This makes it difficult for people transporting dangerous goods and provincial motor vehicle inspectors who need to verify compliance with the TDGR to know whether these dangerous goods safety marks are allowed or not. The TDGR allow the use of labels and placards as illustrated in the UN Recommendations and it is in the UN Recommendations that the option of displaying them with a dotted or solid outer line is found. One has to know the UN Recommendations to be aware that these markings are permissible under section 4.1 of the TDGR. In addition, the TDGR do not specify size requirements for the border line.

To clarify the requirements and align with the UN Recommendations, the option of displaying labels and placards with a dotted or solid outer border line would be added. This would also align with the US requirements.

1.2.4. Location of Line inside the Edge of Labels

A label must have a line that runs parallel to the edge of the label. TC is proposing a slight modification to the requirement for the distance of the line from the edge of the label. The TDGR are currently aligned with the UN Recommendations and require the line to be 5 mm from the edge. The most recent edition of the IMDG Code (Amendment 39-18) and the 2019-2020 ICAO TIs have modified the requirement by adding the word "approximately" before "5 mm". This provides flexibility and allows for minor variations that do not affect communication of the hazards posed by the dangerous goods. The US Department of Transportation has proposed to modify the 49 CFR to align with these changes. This is stated in their notice of proposed rulemaking, *Hazardous Materials: Harmonization With International Standards*, published on November 27, 2018. TC is proposing to also align with the IMDG Code and ICAO TIs for this requirement.

1.2.5. Size of Labels

The TDGR require each side of a label to be 100 mm long. Labels can be reduced in size to a minimum of 30 mm if the means of containment is of irregular shape or is too small to display a full size 100 mm label. There has been some confusion over what is meant by a means of containment that is of "irregular shape". For example, some people believe that a cylinder is of irregular shape but TC does not agree as the shape of a cylinder is regular in its design. The intent is for a full size label to be displayed on a means of containment if it is possible to do so. The provision is meant to address situations where, due to the shape or size of a means of containment, a full size label will not fit. Also, the lack of space to display a full size label due to the display of company logos or other information on the means of containment is not an acceptable justification for displaying reduced labels.

In some situations where multiple labels are required (the dangerous goods have one or more subsidiary classes), full size labels can fit on a means of containment but there is not enough room to display them all on the same side or viewing plane. For example, a box may be able to display multiple full size labels but only if they are placed on different sides of the box. In the case of a cylinder, full size labels may fit on the side but, due to the number of labels that are required, the labels would wrap around the cylinder so that they cannot all be seen from one angle. If it is not possible to see all of the labels on the same viewing plane, the communication of the hazards posed by the dangerous goods inside the means of containment is reduced. One equivalency certificate has already been issued to allow for multiple labels to be reduced so that they can all fit on the same viewing plane.

TC proposes to amend the wording in the TDGR to remove the concept of irregular shape, since it is the available space on the means of containment that must be considered. This would align with the UN Recommendations (and the US 49 CFR) which allow the dimensions of a label to be reduced "if the size of the package so requires".

TC is also proposing to allow the reduction of labels so that they can all be displayed on the same viewing plane on the means of containment. The reduction would be limited to a minimum of 30 mm x 30 mm or, in the case of a cylinder, the size limits set out for cylinder labels (see proposals for labels on cylinders below). This would increase safety by improving communication of hazards and reduce administrative burden by eliminating the need to apply for an equivalency certificate in order to display smaller labels on one viewing plane.

1.2.6. Labels on Cylinders

For cylinders, the TDGR require a label to be displayed either on the side or on or near the shoulder of the cylinder. Since the shoulder often cannot accommodate a full size label, reduced labels are typically used on the shoulder. There has been a difference in interpretation regarding whether or not a reduced label is allowed on the shoulder of a cylinder if a full size label could be displayed on the side of the cylinder. TC has issued equivalency certificates to allow reduced labels (often referred to by industry as banana labels) to be displayed on the shoulder of a cylinder even though a full size label could fit on its side.

The smallest label allowed on a cylinder under the TDGR is 30 mm x 30 mm. Some stakeholders have asked TC to allow the use of labels reduced in size in accordance with ISO 7225:2005 *Gas cylinders – Precautionary labels*. ISO 7225:2005 allows the use of labels as small as 10 mm x 10 mm, determined based on the diameter of the cylinder. The following table shows the sizes allowed in the standard for given diameters of cylinders.

Table – ISO 7225:2005 Specifications for Label Size

Cylinder outside diameter (D)	Length of side of label
D < 75 mm	≥ 10 mm
75 mm ≤ D < 180 mm	≥ 15 mm
D ≥ 180 mm	≥ 25 mm

The UN Recommendations allow labels to be displayed on the shoulder and reduced in size according to ISO 7225:2005 for cylinders for of all Class 2, Gases. The US 49 CFR allows labels to be reduced in accordance with ISO 7225:2005 only for non-refillable UN pressure receptacles, on which labels must be placed on the shoulder. For other cylinders containing Class 2, Gases, the US accepts marking in accordance with the Compressed Gas Association *Guide to Classification and Labeling of Compressed Gases* (CGA C-7), which allows the label to be displayed either on the shoulder or the side and allows reduction to 30 mm.

TC proposes to amend the requirements to allow a reduced label to be displayed on the shoulder of a cylinder even if a full size label would fit on the side of the cylinder. This would clarify the requirements and reduce administrative burden by eliminating the need to apply for an equivalency certificate to display a reduced label on the shoulder of a cylinder. This would align with the UN Recommendations and allow for compliance with the US requirements.

With respect to the size of labels on cylinders, TC is considering allowing the display of labels in accordance with ISO 7225:2005. Two options are being considered and TC would like your feedback on their impacts, whether positive or negative.

1. Align with the UN Recommendations by allowing labels on any type of cylinder to be reduced in size in accordance with ISO 7225:2005.

2. Align with the US 49 CFR by allowing labels to be reduced in size in accordance with ISO 7225:2005 only for non-refillable UN pressure receptacles. Labels on other cylinders containing Class 2, Gases, would need to comply with the 30 mm size limit that is currently in the regulations, but the option of marking in accordance with CGA C-7 could also be included for these cylinders.

1.2.7 Display of UN Numbers on a Means of Containment

The TDGR do not currently include requirements for the size of UN numbers that must be displayed on a small means of containment. TC proposes to add minimum size requirements for UN numbers on a small means of containment to align with both the UN Recommendations and the US 49 CFR.

The TDGR already include a minimum size requirement of 65 mm for UN numbers displayed on a large means of containment, but they do not address a situation where an intermediate bulk container (IBC) is marked with labels instead of placards. The TDGR allow labels, the UN number and shipping name to be displayed on an IBC with a capacity of up to 3 000 L, but they do not provide instruction on the size of the UN number. This creates confusion for the people who are required to mark these means of containment.

Both The UN Recommendations and the US 49 CFR include a minimum size requirement of 12 mm for a UN number on an IBC with labels. TC proposes to introduce a minimum size of 12 mm for a UN number on an IBC with labels to align with the requirements in the UN Recommendations and the US 49 CFR.

Proposed Text
4.8 Ways to Display a UN Number on a Small Means of Containment **(1)** A UN number that is required by this Part to be displayed on a small means of containment or on a tag attached to it must be marked ~~displayed in one of the following ways:~~ **(a)** for cylinders with a water capacity of 60 L or less and other means of containment with a capacity of 30 L or less or with 30 kg maximum net mass or less, with characters at least 6 mm high; **(b)** for packages with a capacity of 5 L or 5 kg or less, in a size appropriate for the size of the means of containment; and **(c)** for all other small means of containment, in characters at least 12 mm high.

Proposed Text
(2) A UN number in (1) must be displayed in one of the following ways: **(a)** next to the primary class label for the dangerous goods; or **(b)** within a white rectangle located on the primary class label for the dangerous goods, without the prefix "UN", but it must not obscure the symbol, class number, compatibility group letter or text on the label.     **4.8.1 Ways to Display a UN Number on a Large Means of Containment** **(1)** A UN number that is required by this Part to be displayed on a large means of containment must be displayed in black numerals not less than 65 mm high in one of the following ways: **(a)** on an orange panel placed next to the primary class placard for the dangerous goods, without the prefix "UN"; or **(b)** within a white rectangle located on the primary class placard for the dangerous goods, without the prefix "UN", but it must not obscure the symbol, class number, compatibility group letter or text on the placard.  Placard with UN numbers in numerals at least 65 mm high. **(2)** Despite subsection (1), for an Intermediate bulk container on which a UN number, shipping name and labels are displayed in accordance with subparagraph 4.15.3(c)(ii), the UN number may be displayed in black numerals not less than 12 mm high next to the primary and subsidiary class labels for the dangerous goods, without the prefix "UN".  Optional label with UN number in numerals at least 12 mm high

1.2.8 Overpack Markings

The TDGR currently only require the following safety marks to be displayed on an overpack: UN number, shipping name and labels for each class of dangerous goods within the overpack. In addition to these requirements, the UN Recommendations and the US 49 CFR also require the display of other marks and labels representative of the dangerous goods. This includes the display of the marine pollutant mark or lithium battery mark, for example.

To align the TDGR with the UN and the US requirements, TC is proposing to amend section 4.10.1 of the TDGR to require that all dangerous goods safety marks representative of the dangerous goods inside the overpack be displayed on the overpack. This would include display of the marine pollutant mark and the lithium battery mark as well as other dangerous goods safety marks that TC is proposing to add in this amendment, such as orientation arrows. Section 4.10.1 would still include the exception that the markings are not required on the overpack if they can be seen through the overpack.

Proposed Text
4.10.1 Safety Marks on an Overpack **(1)** When a safety mark is required by this Part to be displayed on a small means of containment and the small means of containment is inside an overpack, the person who prepares the overpack must display **(a)** the word "Overpack" or "Suremballage", in letters that are at least 12 mm high on a contrasting background, on at least one side of the overpack; **(b)** the information required by subsection (3) on one side of the overpack, if its capacity is less than 1.8 m3 (64 cubic feet); and **(c)** the information required by subsection (3) on two opposite sides of the overpack, if its capacity is greater than or equal to 1.8 m3 (64 cubic feet). **(2)** Subsection (1) does not apply if the information required by subsection (3) ~~a safety mark for each class of dangerous goods inside the overpack~~ is visible through the overpack. **(3)** The following information must be displayed on the overpack: **(a)** the shipping name and UN number of each of the dangerous goods contained in the overpack; and **(b)** the ~~primary class label and each subsidiary class label~~ other dangerous goods safety marks required in this Part for each of the dangerous goods contained in the overpack, except that if two or more dangerous goods in the overpack are identified by the same dangerous goods safety mark, the dangerous goods safety mark is required to be displayed only once. ~~only one label is required for dangerous goods that are included in the same class; and~~ **(4)** When dangerous goods included in Class 7, Radioactive Materials, are transported in an overpack and a label is required to be displayed by this Part, the overpack must be prepared in accordance with section 16(4) of the "Packaging and Transport of Nuclear Substances Regulations".

1.2.9 Display of Subsidiary Class Placards

Section 4.15.1 of the TDGR requires subsidiary class placards to be displayed on large means of containment if the dangerous goods require an emergency response assistance plan (ERAP) and have subsidiary classes of Class 1, Class 4.3 or Class 6.1. It also requires the Class 8, Corrosives, placard for UN2977, RADIOACTIVE MATERIAL, URANIUM HEXAFLOURIDE, FISSILE or UN2978, RADIOACTIVE MATERIAL, URANIUM HEXAFLOURIDE, non-fissile or fissile excepted, when these dangerous goods require and ERAP. In a recent amendment to the TDGR, the entries for UN2977 and UN2978 were updated to include subsidiary Class 6.1, Toxic Substances, in addition to subsidiary Class 8, to align with the 19th edition of the UN Recommendations. To reflect the updated classification of these dangerous goods, section 4.15.1 would be revised to refer to the Class 6.1 placard as well as the Class 8 placard for their subsidiary classes.

Proposed Text
4.15.1 Subsidiary Class Placards on a Large Means of Containment A subsidiary class placard for dangerous goods must be displayed, next to the primary class placard for the dangerous goods, on each side and on each end of a large means of containment if the dangerous goods require an emergency response assistance plan and **(a)** have a subsidiary class of Class 1, Explosives, in which case the placard is the one illustrated for Class 1.1, 1.2 or 1.3 in the appendix to this Part; **(b)** have a subsidiary class of Class 4.3, Water-reactive Substances, in which case the placard is the one illustrated for Class 4.3 in the appendix to this Part; **(c)** have a subsidiary class of Class 6.1, Toxic Substances, and are included in Packing Group I due to inhalation toxicity, in which case the placard is the one illustrated for Class 6.1 in the appendix to this Part; or

Proposed Text
(d) ~~have a subsidiary class of Class 8, Corrosives, and~~ are UN2977, RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, FISSILE, or UN2978, RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, non-fissile or fissile excepted, in which case the placards are ~~is~~ the ones illustrated for Class 6.1, Toxic Substances, and for Class 8, Corrosives, in the appendix to this Part.

1.2.10 Orientation Arrows

The UN Recommendations and the US 49 CFR require the display of orientation arrows on means of containment that contain liquid dangerous goods. These arrows indicate which way up the means of containment should be handled to minimize the chance of a release of dangerous goods. The TDGR currently do not have requirements to display orientation arrows. TC is proposing to add a new section to Part 4 (Dangerous Goods Safety Marks) applicable to liquid dangerous goods to increase safety and align with international requirements.

1.3. UN Numbers, Shipping Names and Related Provisions

Through this amendment, Schedules 1 and 3 would be amended to add new UN numbers and modify some existing shipping names to align the TDGR with the 20th edition of the UN Recommendations. Special provisions in Schedule 2 related to these UN numbers and shipping names would also be revised or added to reflect changes made in the UN Recommendations. The following are the main changes.

1.3.1 New UN Numbers

New entries for UN3535, TOXIC SOLID, FLAMMABLE, INORGANIC, N.O.S., and UN3536, LITHIUM BATTERIES INSTALLED IN CARGO TRANSPORT UNIT, would be added to the TDGR to align with the 20th edition of the UN Recommendations. A new special provision applicable to UN3536 would be added to reflect new UN special provision 389. TC also proposes to add a definition to the TDGR for "cargo transport unit" since the term is not currently in the TDGR but would be introduced through the addition of UN3536. "Cargo transport unit" would be defined as having the same meaning as in the UN Recommendations.

Table – New Entries in Schedule 1

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6		Col. 7	Col. 8	Col.9
UN Number	**Shipping Name and Description**	**Class**	**Packing Group**	**Special Provisions**	**6(a) Explosive Limit and Limited Quantity Index**	**6(b) Excepted Quantities**	**ERAP Index**	**Passenger Carrying Vessel Index**	**Passenger Carrying Road Vehicle or Railway Vehicle Index**
UN3535	TOXIC SOLID, FLAMMABLE, INORGANIC, N.O.S.	6.1 (4.1)	I	16	0	E5			
UN3535	TOXIC SOLID, FLAMMABLE, INORGANIC, N.O.S.	6.1 (4.1)	II	16	0.5 kg	E4			
UN3536	LITHIUM BATTERIES INSTALLED IN CARGO TRANSPORT UNIT lithium ion batteries or lithium metal batteries	9		new provision	0	E0			

This consultation document does not include proposals with respect to new entries for articles. The 20th edition of the UN Recommendations added 12 new UN entries for articles that do not already have proper shipping names. It also introduced a new classification system and packaging instructions for these articles. The addition of these new entries to the TDGR would have impacts on the classification provisions, special cases, means of containment and dangerous goods safety marks requirements found in the TDGR. TC is currently assessing these impacts and considering how the TDGR would need to be modified to accommodate the addition of these new entries for articles. TC's proposal with respect to the addition of new UN entries for articles will be presented for consultation when the proposed regulations for the international harmonization updates to the TDGR is published in *Canada Gazette*, Part I.

1.3.2 Changes to Shipping Names

The shipping name in the TDGR for UN1057 currently contains the requirement that lighters or lighter refills must be capable of passing the tests specified in the *Lighters Regulations.* This condition would be removed from the shipping name as it is not included in the name listed in the UN Recommendations.

The word "STABILIZED" would be added at the end of the shipping name for UN3302, 2-DIMETHYLAMIONOETHYL ACRYLATE, to reflect its properties. Special provision 155, which sets out specific requirements for the transport of temperature-controlled substances and for chemically stabilized polymerizing substances, would now apply to these dangerous goods.

Table – Changes to Shipping Names in Schedule 1

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6		Col. 7	Col. 8	Col.9
UN Number	**Shipping Name and Description**	**Class**	**Packing Group**	**Special Provisions**	**6(a) Explosive Limit and Limited Quantity Index**	**6(b) Excepted Quantities**	**ERAP Index**	**Passenger Carrying Vessel Index**	**Passenger Carrying Road Vehicle or Railway Vehicle Index**
UN1057	LIGHTER REFILLS containing flammable gas ~~and capable of passing the tests specified in the Lighters Regulations~~; or LIGHTERS containing flammable gas ~~and capable of passing the tests specified in the Lighters Regulations~~	2.1			0.125 L	E0			1 L
UN3302	2-DIMETHYLAMIONOETHYL ACRYLATE, STABILIZED	6.1	II	155	0.1 L	E4		Forbidden	5 L

1.3.3 Packing Groups

There are a number of dangerous goods that are included in packing groups in the TDGR but that no longer have packing groups in the UN Recommendations or in the US 49 CFR. This causes confusion and problems, especially for shipments between Canada and the US, since packing groups must be indicated on shipping documents. Under the TDGR, packing groups must be included on the shipping document for these dangerous goods, but they must not under the 49 CFR.

To align with the 20th Edition of the UN Recommendations and with the US 49 CFR, Part 2 (Classification) and Schedule 1 of the TDGR would be amended to remove the packing groups for the following dangerous goods:

- Class 1, Explosives (UN0004 to UN0150)
- UN1327, BHUSA, HAY or STRAW, regulated only when transported by vessel (not regulated in the US)
- Class 5.2, Organic Peroxides (UN3101 to UN3120)
- Self-reactive liquids and solids in Class 4.1 (UN3221 to UN3240)
- UN3316, CHEMICAL KIT or FIRST AID KIT

1.4 Amendments to Special Provisions and New Special Provisions

A number of changes were made to special provisions in the 20th edition of the UN Recommendations and some new special provisions were added. Schedule 2 of the TDGR would be amended to align with the UN Recommendations. The following are the main changes that are being proposed.

1.4.1 Special Provision 16 - Technical Names

For dangerous goods that are subject to special provision 16, the technical name of at least one of the most dangerous substances that contributes to the hazard of the mixture is required to be shown on the shipping document and, in certain cases, on the small means of containment. As there may be more than one substance that contributes to the hazard of the dangerous goods, and considering the complexity of the names, this special provision would be modified to specify that a maximum of two of the most dangerous substances can be shown. This amendment would align with the UN Recommendations.

1.4.2 Special Provision 34 – Exemption for Lithium Cells and Batteries

Special provision 34, which provides exemption for the transport of lithium cells and batteries by road, rail and vessel (on a domestic voyage), would be revised to reflect changes to UN special provision 188. Clarity would be provided by specifying that the cells and batteries must be protected against contact with electrically conductive materials. A new requirement would be added for overpacks containing lithium cells and batteries for which the lithium battery mark must be displayed. The lithium battery mark would need to be reproduced on the outside of an overpack if it is not clearly visible through the overpack. The overpack would also have to be marked with the word "OVERPACK" in letters at least 12 mm high.

Requirements would be further clarified by adding an explanation that in this special provision "equipment" means apparatus for which the lithium cells or batteries will provide electrical power for its operation.

In addition, the provision that allowed the marking of a means of containment with the words "lithium metal", "lithium métal", "lithium ion" or "lithium ionique" instead of with the lithium battery mark, would be repealed as this option was only permitted until the end of 2018. This provision is now redundant.

1.4.3 Special Provision 39 – Exemption for Wet Batteries

Special provision 39 provides an exemption for UN2800, BATTERIES, WET, NON-SPILLABLE, but excludes batteries intended for disposal, thus making them fully regulated under the TDGR. This special provision would be amended to align with special provision 238 in the UN Recommendations by allowing the exemption to apply to batteries that are intended for disposal.

1.4.4 Special Provision 41 – Packing Instruction for Oxygen Generators

Special provision 41 includes requirements from UN packing instruction P500 for the transport of oxygen generators. The current text of the special provision does not quite reflect the intent of P500. To align with the UN instruction, special provision 41 would be revised to say that if an oxygen generator is to be activated during transport, the oxygen generator must be transported in a means of containment that is inside another means of containment so that it will not ignite other oxygen generators or the means of containment and the outside temperature of the outer means of containment does not exceed 100°C. The special provision currently requires an oxygen generator to be transported in a means of containment that is inside another means of containment as a precaution, even if it is not intended to be activated during transport.

1.4.5 Special Provision 56 – Exemption for Solids containing flammable liquids

TC is proposing to allow the use of flexible intermediate bulk containers (FIBC), such as 13H3 and 13H4, for the transportation of dangerous goods assigned to UN3175, SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S.

Currently, special provision 56 requires that selection of the means of containment for the transportation of UN3175 meets the National Standard of Canada CAN/CGSB-43.146-2002 "*Design, Manufacture and Use of Intermediate Bulk Containers for the Transportation of Dangerous Goods*" requirements. Under this standard, the use of FIBC is not permitted.

However, TC has issued equivalency certificates (EC) authorizing the use of FIBC which ensured an equivalent level of safety. As such, we are proposing to modify special provision 56 to allow the transportation of these dangerous goods in FIBC under the following conditions:

- there is no free liquid visible at the time the dangerous goods are loaded, or at the time the FIBC and transport unit are closed; and
- when transported on board an open vehicle, the FIBC are water-tight and constructed so that neither rain nor road spray can come into contact with the dangerous goods.

This proposed amendment would provide more alternatives for industry to transport UN3175 while maintaining safety.

1.4.6 Special Provision 65 – Chemical Kit or First Aid Kit

Special provision 65 provides instruction on which packing group should be assigned to a chemical kit or a first aid kit that contains dangerous goods. To align with special provision 251 in the UN Recommendations, text would be added to special provision 65 to specify that if a kit contains only dangerous goods to which no packing group is assigned, then no packing group should be indicated on the dangerous goods transport document.

The 20th edition of the UN Recommendations introduced an amendment to permit chemical kits and first aid kits to contain substances that may be shipped as excepted quantities. In the previous edition of the UN Recommendations, the dangerous goods in chemical kits and first aid kits were restricted to those permitted in limited quantities. TC proposes to make the same amendment in special provision 65. This would allow for some substances in Class 6.1, Toxic Substances, PG I, and Class 3, Flammable Liquids, PG I, to be shipped in chemical kits and first aid kits, in addition to those already permitted that meet the allowance for limited quantities.

1.4.7 Special Provision 105 - Classification of 1.4S Explosives

Special provision 105 requires that for the assignment of 1.4S classification to certain explosives, the Test series 6 (d) of Part I of the Manual of Tests and Criteria must be passed. The 20th edition of the UN Recommendations includes changes that apply special provision 347 to four additional Class 1.4 dangerous goods whose classification is normally package dependant or that are generic entries, since generic entries usually warrant more systematic testing. To align with the UN Recommendations, the TDGR would be amended to apply special provision 105 to the following UN entries: UN0349 ARTICLES, EXPLOSIVES, N.O.S., UN0367 FUZES, DETONATING, UN0384 COMPONENTS, EXPLOSIVE TRAIN, N.O.S., and UN0481 SUBSTANCES, EXPLOSIVE, N.O.S.

1.4.8 Special Provisions 112, 113 and 114 – Classification of Ammonium Nitrate Based Fertilizer

Changes were made to special provisions 186, 193 and 307 in the 20th edition of the UN Recommendations to remove the technical requirements for the classification of ammonium nitrate based mixtures and instead reference section 39 of Part III of the Manual of Tests and Criteria which now contains the classification criteria. The special provisions in the TDGR that apply to UN2067, AMMONIUM NITRATE BASED FERTILIZER, and UN2071, AMMONIUM NITRATE BASED FERTILIZER, would be amended to reflect these changes. Special provision 112 would be repealed and special provisions 113 and 114 would be modified to refer to the classification criteria in section 39 of the Manual of Tests and Criteria instead of the current, technical criteria.

Special provision 114 would continue to apply for all modes of transport, even though the UN special provision continues to apply only to transport by air and vessel, as TC feels the dangers posed by these dangerous goods are significant.

1.4.9 Special Provision 132 - Stabilization of Fish Meal

Special provision 132 sets out the requirement for the stabilization of UN2216, FISH MEAL, STABILIZED or FISH CRAP, STABILIZED, applicable only when transported by vessel. It requires these dangerous goods to contain at least 100 ppm of the antioxidant ethoxyquin to prevent spontaneous combustion. However, in the 20th edition of the UN Recommendations, special provision 308 was modified to reduce the level of ethoxyquin to 50 ppm. The previous level of 100 ppm of antioxidant required was well in excess of what is required to achieve stabilization. In addition, the option of using other antioxidants, such as butylated hydroxytoluene (BHT) and tocopherols was added to UN special provision 308. To this end, special provision 132 would be modified to align with the UN Recommendations by reducing the levels of ethoxyquin to 50 ppm and adding BHT and tocopherols as alternative antioxidants.

1.4.10 Special Provision 137 - Damaged or Defective Lithium Batteries

Changes to special provision 376 in the 20th edition of the UN Recommendations introduced transportation provisions for damaged and defective cells and batteries that are liable to rapidly disassemble, dangerously react, or produce a flame, a dangerous evolution of heat, or dangerous emissions under normal conditions of transport. The transport of these damaged batteries is currently forbidden under special provision 137 in the TDGR. TC is not proposing to incorporate these UN changes into the TDGR as the risks posed by transporting these dangerous goods is high. If there is a need to transport them, an application for an equivalency certificate can be submitted and TC can evaluate the situation on a case by case basis.

Under special provision 137 the words "Damaged/Defective Lithium Ion Batteries", "piles au lithium ionique endommagées/défectueuses", "Damaged/Defective Lithium Metal Batteries" or "piles au lithium métal endommagées/défectueuses" must be displayed on an outer means of containment or an overpack. The UN simplified this text in the 20th edition of the UN Recommendations by changing it to “DAMAGED/DEFECTIVE”. TC proposes to align with the UN by requiring the words “damaged/defective” or “endommagées/défectueuses”. Removing the reference to lithium batteries would not decrease communication of the hazards because the Class 9, Lithium Batteries label or the lithium battery mark is already required on the means of containment.

1.4.11 Special Provisions 141 and 153 – Limited Quantities

TC is proposing to allow the transportation of larger quantities of dangerous goods that are assigned to UN3269, POLYESTER RESIN KIT, liquid base material; UN3316, CHEMICAL KIT or FIRST AID KIT; and UN3527, POLYESTER RESIN KIT, solid base material.

Currently, special provisions 141 and 153 restrict the quantities of dangerous goods contained in these kits to very small amounts (called excepted quantities), ranging from 1 to 30 ml or g. Consequently, dangerous goods in quantities more than the excepted quantities cannot be transported as UN3269, UN3316 or UN3527. The quantity restriction does not align with the UN Recommendations.

This amendment aims to eliminate unnecessary costs by aligning with the UN Recommendations. Kits prepared in compliance with international recommendation would also be in compliance in Canada.

1.4.12 Special Provisions 67, 93, 156 and 157 – Classification of Vehicles

In the 20th edition of the UN Recommendations, four special provisions concerning the classification of vehicles (special provisions 240, 312, 380 and 385) were combined into one to eliminate redundancies and make the requirements easier to understand. The new special provision (388), applicable to vehicles transported under UN3166 and UN3173, keeps the requirements that were in the four provisions but reduces the repetition and provides clarity.

TC is proposing to repeal special provisions 67, 93, 156 and 157 and replace them with a new special provision that merges their content. The result would be increased clarity and alignment with the new UN special provision 388. There would be no substantial changes to the requirements.

Proposed Text

Note: Text in square parentheses identifies where the equivalent provision is found in the current TDGR.

New special provision

(1) The UN number UN3166 applies to vehicles that are powered by internal combustion engines or fuel cells that run a flammable liquid or gas. *[SP 157(1)]*

(2) A vehicle that contains a fuel cell must be handled, offered for transport or transported under UN3166, VEHICLE, FUEL CELL, FLAMMABLE GAS POWERED, or UN3166, VEHICLE, FUEL CELL, FLAMMABLE LIQUID POWERED, as appropriate. *[SP 93(2) and 67(6)]* This shipping name applies to hybrid electric vehicles that are powered by both a fuel cell and an internal combustion engine with wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries and that are transported with the batteries installed. *[new to align with UN SP 388]*

(3) A vehicle, other than a vehicle listed in subsection (2), that contains an internal combustion engine, must be transported under UN3166, VEHICLE, FLAMMABLE GAS POWERED, or UN3166, VEHICLE, FLAMMABLE LIQUID POWERED, as appropriate. This shipping name applies to hybrid electric vehicles that are powered by an internal combustion engine and by wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries and that are transported with the batteries installed. *[SP 93(1)]*

(4) If a vehicle is powered by an internal combustion engine that runs on a flammable liquid and a flammable gas, the vehicle must be offered for transport, handled and transported under UN3166 VEHICLE, FLAMMABLE GAS POWERED. *[SP 156]*

(5) The UN number and shipping name UN3171, BATTERY-POWERED VEHICLE applies to vehicles powered by wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries and that are transported with these batteries installed, including vehicles that are transported in a means of containment. *[SP 67(1)]*

(6) For the purposes of this special provision, vehicles are self-propelled apparatus designed to carry persons or goods. Examples include cars, motorcycles, trucks, locomotives, scooters, three- and four-wheeled vehicles or motorcycles, lawn tractors, self-propelled farming and construction equipment, boats and aircraft. *[SP 157(2)]*

(7) For greater certainty, in the case of a vehicle transported in a means of containment, subsections (1) to (6) apply to a vehicle that is transported with some parts detached from its frame in order to fit into the means of containment. *[SP 67(2)]*

(8) The UN number and shipping name UN3171, BATTERY-POWERED EQUIPMENT applies to equipment that is powered by wet batteries or sodium batteries and that is transported with these batteries installed. *[SP 67(3)]*

Proposed Text
(9) Equipment powered by lithium metal batteries or lithium ion batteries must be handled, offered for transport or transported under the UN number and shipping name (a) UN3091, LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT; (b) UN3091, LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT; (c) UN3481, LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT; or (d) UN3481, LITHIUM ION BATTERIES PACKED WITH EQUIPMENT. *[SP 67(4)]* (10) For the purposes of this special provision, examples of equipment include lawnmowers, cleaning machines or model boats and model aircraft. *[new to align with UN SP 388 and (6) above]* (11) These Regulations, except for Part 1 (Coming into Force, Repeal, Interpretation, General Provisions and Special Cases) and Part 2 (Classification), do not apply to the handling, offering for transport, transport or import of dangerous goods that are contained in a vehicle and that are required for the functioning or safe operation of the vehicle, if they are on a road vehicle, a railway vehicle or a vessel on a domestic voyage and they are securely installed in the vehicle. *[SP 67(7) and SP 157(3) and UN SP 388]* (12) Despite subsection (11), dangerous goods that are lithium batteries must meet the requirements in section 2.43.1, except that paragraph 2.43.1(2)(a) does not apply when they are pre-production prototype batteries or batteries of a small production run, consisting of not more than 100 batteries, and are installed in vehicles or equipment. *[new to align with UN SP 388]* *UN3166, UN3171*

1.4.13 Special Provision 167 – Dangerous Goods in Apparatus or Machinery

Special provision 167 sets out requirements for the transport of dangerous goods in apparatus or machinery. The intent of the provision would remain the same, but it would be modified to provide clarity. The amendment would clarify that if a machinery or apparatus contains more than one item of dangerous goods, the items must be enclosed to prevent them from reacting dangerously with one another during transport. Currently, the text states that "the items must not be capable of reacting dangerously with one another". This statement is ambiguous and could easily be misinterpreted. The modification would reflect a change made to special provision 301 in the 20th edition of the UN Recommendations.

1.4.14 New Special Provision – Lithium Batteries in Cargo transport Units

A new special provision would be added to the TDGR to reflect the addition of special provision 389 in the 20th edition of the UN Recommendations. This special provision would apply to the new UN number UN3536, LITHIUM BATTERIES INSTALLED IN CARGO TRANSPORT UNIT. It would include requirements to prevent short circuits, accidental operation, overcharge and over discharge between batteries. It would provide an exemption from labelling and marking requirements on the batteries inside the cargo transport unit and would set out placarding requirements for the cargo transport unit.

1.4.15 New Special Provision - Vehicles Transported by Vessel

Special provisions 961 and 962 in the IMDG Code provide exemptions for the transportation of vehicles by vessel when certain conditions are met. The TDGR require compliance with the IMDG Code for international marine transport so the exemptions in the IMDG Code apply for vehicles that are transported by vessel internationally. The TDGR do not, however, provide a similar exemption for vehicles that are transported domestically by vessel.

Challenges arise when private vehicles are transported domestically for personal use. A person wanting to ship their car or skidoo by boat within Canada needs to comply with all requirements of the TDGR, including preparing a shipping document and holding a valid training certificate. The US 49 CFR also provides exemptions for vehicles transported by vessel. This creates confusion and poses challenges when vehicles are transported by vessel between the US and Canada. Compliance with the TDGR is required for the transport of dangerous goods by vessel between Canada and the US if the vessel is on an inland voyage. Thus, a vehicle shipped on an inland voyage from the US to Canada would be exempt under the 49 CFR but would be fully regulated under the TDGR.

TC is proposing to add a new special provision to the TDGR to provide exemptions for vehicles transported by vessel. The new special provision would align with the IMDG Code special provisions. The US exemption closely aligns with the IMDG special provisions but does not provide exemption from marking even when the requirements are met. TC is proposing to align with the IMDG Code to provide exemption from marking requirements.

Proposed Text
New special provision **(1)** These Regulations, except for Part 1 (Coming into Force, Repeal, Interpretation, General Provisions and Special Cases) and Part 2 (Classification), do not apply to a vehicle: **(a)** the vehicle is located on the vehicle, special category and ro-ro spaces or on the weather deck of a ro-ro ship or a cargo space designated by the administration of the country in which the vessel is registered as specifically designed and approved for the carriage of vehicles, and there are no signs of leakage from the battery, engine, fuel cell, compressed gas cylinder or accumulator, or fuel tank as applicable. (i) When packed in a cargo transport unit the exception does not apply to container cargo spaces of a ro-ro ship. (ii) For a vehicle powered solely by lithium batteries or a hybrid electric vehicle powered by both an internal combustion engine and lithium metal or ion batteries, the lithium batteries must meet the provisions of section 2.43.1, except that paragraph 2.43.1(a) does not apply when pre-production prototype batteries or batteries of a small production run, consisting of not more than 100 batteries, are installed in the vehicle and the vehicle is manufactured and approved according to the provisions applied in the country of manufacture or country of use. **(b)** For a vehicle powered by a flammable liquid fuel with a flashpoint of 38°C or above, there are no leaks in any portion of the fuel system, the fuel tank contains 450 L of fuel or less and installed batteries are protected from short-circuit; **(c)** For a vehicle powered by a flammable liquid fuel with a flashpoint less than 38°C, the fuel tank is empty and installed batteries are protected from short circuit. Vehicles are considered to be empty of flammable liquid fuel when the fuel tank has been drained and the vehicles cannot be operated due to a lack of fuel. Engine components such as fuel lines, fuel filters and injectors do not need to be cleaned, drained or purged to be considered empty. The fuel tank does not need to be cleaned or purged; **(d)** For a vehicle powered by a flammable gas (liquefied or compressed), the fuel tank is empty and the positive pressure in the tank does not exceed 2 bar, the fuel shut-off or isolation valve is closed and secured, and installed batteries are protected from short circuit; **(e)** For a vehicle solely powered by a wet or dry electric storage battery or a sodium battery, the battery is protected from short circuit. **(2)** A vehicle that does not meet the conditions in subsection (1) must be assigned to class 9 and must meet the following requirements: **(a)** the vehicle must not show signs of leakage from batteries, engines, fuel cells, compressed gas cylinders or accumulators, or fuel tank when applicable; **(b)** for a flammable liquid powered vehicles the fuel tank containing the flammable liquid must not be more than one fourth full and the flammable liquid shall not exceed 250 L; **(c)** for a flammable gas powered vehicle, the fuel shut-off valve of the fuel tank must be securely closed; **(d)** for a vehicle with batteries installed, batteries must be protected from damage, short circuit, and accidental activation during transport. Lithium batteries must meet the provisions of section 2.43.1, except that paragraph 2.43.1(a) does not apply when pre-production prototype batteries or batteries of a small production run, consisting of not more than 100 batteries, are installed in the vehicle. **(3)** Part 4 (Dangerous Goods Safety Marks) does not apply to vehicles if the conditions in subsection (2) are met. *UN3166, UN3171*

1.4.16 New Special Provision - Classification of Hybrid Batteries

The 20th Edition of the UN Recommendations introduced a new special provision (387) applicable to UN3090, LITHIUM METAL BATTERIES, UN3091, LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT or LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT, UN3480, LITHIUM ION BATTERIES, and UN3481, LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT or LITHIUM ION BATTERIES PACKED WITH EQUIPMENT. UN special provision 387 sets out the requirements for the classification of hybrid lithium batteries that contain both primary lithium metal cells and rechargeable lithium ion cells. In previous editions of the UN Recommendations, hybrid batteries could not be assigned to a specific UN entry, which created confusion for classification. Under this new special provision, hybrid lithium batteries that meet the testing requirements of the Manual of Tests and Criteria are to be assigned to UN3091 or UN3091 as appropriate. In addition, the total lithium content of all lithium metal cells shall not exceed 1.5 g, and the total capacity of all lithium ion cells contained in the battery shall not exceed 10 Wh.

To align with the UN Recommendations, TC is proposing to add a new special provision that reflects UN special provision 387 and is applicable to UN3090, UN3091, UN3480 and UN3481.

Proposed Text
New special provision **(1)** Lithium batteries containing both primary lithium metal cells and rechargeable lithium ion cells that are not designed to be externally charged, must meet the following conditions: **(a)** The rechargeable lithium ion cells can only be charged from the primary lithium metal cells; **(b)** overcharge of the rechargeable lithium ion cells is precluded by design; **(c)** the battery has been tested as a primary lithium battery; and **(d)** component cells of the battery must be of a type proved to meet the respective testing requirements of the Manual of Tests and Criteria, part III, subsection 38.3 (IBR, see § 171.7 of this subchapter). **(2)** Lithium batteries meeting the requirements of this special provision must be assigned to UN3090, LITHIUM METAL BATTERIES or UN3091 LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT or LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT, as appropriate. **(3)** When such batteries are transported in accordance with Special Provision 34, the total lithium content of all lithium metal cells contained in the battery must not exceed 1.5 g and the total capacity of all lithium ion cells contained in the battery must not exceed 10 Wh. *UN3090, UN3091, UN3480, UN3481*

1.5 Change to the List of Marine Pollutants

Dangerous goods that are considered marine pollutants under the IMDG Code are identified in Schedule 3 of the TDGR. Based on test data, the most recent edition of the IMDG Code (Amendment 39-18) was updated to indicate that 1-dodecene is not a marine pollutant. To maintain alignment with the IMDG Code for marine pollutants, TC proposes to amend the entry in Schedule 3 for "Dodecene" by adding "(except 1-dodecene)". The requirements specific to marine pollutants would therefore not apply to 1-dodecene.

1.6 Changes due to the Updated TP 14850 Standard for Small Containers

Transport Canada Standard, TP 14850, *Small Containers for Transport of Dangerous Goods, Classes 3, 4, 5, 6.1, 8 and 9, a Transport Canada Standard,* was recently updated to incorporate packing instructions and some other requirements found in the 20th edition of the UN Recommendations. It also contains revisions specific to Canadian requirements. Publication of the new standard is anticipated for early 2019. TC proposes to update the TDGR to reference the most recent version of this standard. As a result, the requirements in the revised standard would need to be met. In addition, several changes would need to be made to the TDGR as a result of the revised content of the standard.

1.6.1 Updated Reference to the Standard

The Table of Safety Standards and Safety Requirement Documents in the TDGR would be updated to reference the latest edition and the new title of the standard.

Table - Title in Section 1.3.1 Table of Safety Standards and Safety Requirement Documents

Current Title	New Title
Transport Canada Standard TP14850E, "Small Containers for Transport of Dangerous Goods, Classes 3, 4, 5, 6.1, 8 and, 9, a Transport Canada Standard", 2nd Edition, October 2010, published by the Department of Transport	Transport Canada Standard TP 14850E, "Design, manufacture and use of UN Standardized drums, jerricans, boxes, bags, combination packaging, composite packaging and other packagings for the transport of dangerous goods, classes 3, 4, 5, 6.1, 8, and 9.", 3rd Edition, [new date], published by the Department of Transport

1.6.2 Packing Instructions

The standard was revised to update existing packing instructions to align with the 20th edition of the UN Recommendations and to add packing requirements that align with several UN packing instructions (P005 for engines and machinery and P908, P909, LP904 and P910, for lithium ion and lithium metal batteries and lithium ion and lithium metal batteries packed in or with equipment). Because these packing instructions have been incorporated into the standard, the reference to the UN packing instructions for the packaging requirements are no longer needed in the special provisions in the TDGR. Requirements to meet these UN packing instructions would be removed from special provisions 123, 137 and 138.

The Standard now includes the UN packaging code for 4N boxes and the associated construction requirements for Type 4N boxes, in alignment with the UN Recommendations.

1.6.3 Marking of Salvage Containers

The UN Recommendations require salvage containers to be marked with “SALVAGE”. To align with the UN, the standard has been revised to include this requirement.

1.6.4 Dangerous Goods List

The Dangerous Goods List in Appendix A of the standard has been updated to reflect new entries that were added in the 20th edition of the UN Recommendations.

1.6.5 Batteries in Large Means of Containment

Currently, under the TDGR, batteries packaged in non-standardized containers that exceed 450 L in volume must be transported in accordance with equivalency certificates, rather than specific requirements set out in the TDGR or the standard. TC proposes to amend section 5.14 Large Means of Containment to make reference to the TP 14850 Standard. As a result, consignors transporting batteries in non-standardized means of containment exceeding 450 L would be able to make use of packing instruction P801 under TP14850 which applies to non-standardized containers such as crates and pallets, and is not restricted to volumes under 450 L. This change would reduce the administrative burden of having to apply for equivalency certificates, without jeopardizing safety.

1.6.6 Periodic Retest requirement

The new edition of the TP 14850 Standard introduces the requirement for container manufacturers to retest representative samples of the registered container design every five years. The intent of the periodic retesting is to ensure that all containers manufactured since the initial design testing are still capable of meeting the UN performance tests. The standard provides an exemption from the periodic retesting, container manufacturers of codes 1A, 1B, 1H, 1N, 3A, 3B, 3H, 6HA, 6HB and 6HH who must have in place a registered ISO 9001 quality management system for their TC registration. This exemption ensures consistency with testing requirements of containers in other safety standards (e.g. at this time IBC designs are not required to be periodically retested) and reduces the burden on container manufacturers who must maintain a registered quality management system as part of their TC registration.

1.6.7 Reconditioning of Drums

The TDGR currently contain requirements for the reconditioning of steel or plastic drums used for transporting dangerous goods that are liquid (in Class 3, 4, 5, 6.1, 8 or 9) before reuse. These requirements have been included in the new TP 14850. The requirements have not changed but, as a result of their inclusion in the standard, they are no longer needed in the TDGR and section 5.12(2) would be repealed.

2 Proposal to Modernize Part 4 (Dangerous Goods Safety Marks)

The desire by industry to have more consistent marking requirements between Canada and other countries has been expressed in different forms. In light of a steady growth in cross-border and multimodal transportation (road, rail, sea and air) of dangerous goods, having uniform regulations that contributes to worldwide harmonization would reduce costs for businesses and facilitate the work of enforcement personnel.

To this end, TC would like to modernize the TDGR in order to make the regulations more relevant, agile and efficient. The ultimate goal is to eliminate unnecessary costs, increase competitiveness, strengthen enforcement and, as always, maintain or improve safety.

As the first step towards modernization, TC is proposing to revise a few of the labelling and placarding requirements set out in Part 4 of the TDGR. Specifically, we are considering revising:

1. Text displayed on labels and placards; and
2. The display of dangerous goods markings for oxidizing gases

You will find the description of each topic presented in the paragraphs below, including background information, current challenges and alternative approaches.

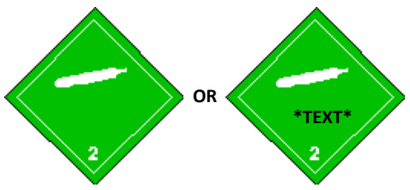
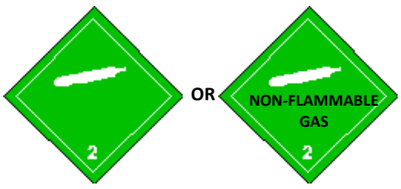
We seek your feedback on the benefits and possible negative impacts these proposals could have on your respective sector. This is an opportunity to hear from you, stakeholders, first responders, enforcement personnel and the public in general. We encourage you to share your opinions and your own proposals to simplify the labelling and placarding requirements.

2.1 Text Displayed on Labels and Placards

Background

- The UN Recommendations and the 49 CFR allow the display of text on labels and placards to emphasize dangerous goods hazards.
- Under the 49 CFR, the text displayed on markings must be in English. However, text in a language other than English is permitted, provided text in English is also displayed.
- In Canada, wording on labels and placards is, with a few exceptions, not permitted.

The table below illustrates as an example labels and placards for Class 2.2, Non-flammable and Non-toxic gases in accordance with the TDGR, UN Recommendations and 49 CFR.

TDGR	UN Recommendations	49 CFR
Class 2.2, Non-flammable and Non-toxic Gases	**Division 2.2: Non-flammable, non-toxic gases**	**Non-flammable Gas**
	 *Additional text / numbers / symbol / letters shall or may be shown	

Challenges

In general, under the TDGR, labels or placards with text are not allowed on consignments of dangerous goods to be transported within Canada. This results in additional costs and compliance burden for businesses. For example, an international consignment transported by vessel displaying placards for Class 4.1, marked with text and in accordance with the IMDG Code would not be allowed to be reshipped within Canada. Thus, the consignment would be held at the port until the consignor or carrier replaces the placards with those required under the TDGR (with no text).

Alternative Approaches

Transport Canada is exploring the following options:

Option 1. Allow the display of labels and placards that include text;

Option 2. Replace current TDGR labels and placards with those that display text; and

Option 3. "Status Quo": Text displayed on labels and placards is not permitted.

Please find the options illustrated in the table below.

Option 1. Allow the display of labels and placards that include text.

Because of Canada's two official languages, TC would consider options for the text, such as:

- English and French;
- English or French;
- English or French and a language other than English or French; or
- English and French and a language other than English or French.

Outcome:

- In compliance with the UN Recommendations and 49 CFR.

Class 2.2, Non-flammable and Non-toxic Gases

Option 2. Replace current TDGR labels and placards with those that display text.

Because of Canada's two official languages, TC would consider options for the text:

- English and French; or
- English or French.

Outcome:

- Partial alignment with the UN Recommendations and the 49 CFR.

Class 2.2, Non-flammable and Non-toxic Gases

Class 2.2, Non-flammable and Non-toxic Gases

Option 3. "Status Quo": Text displayed on labels and placards is not permitted.

Outcome:

- Partial alignment with the UN Recommendations and the 49 CFR.

Class 2.2, Non-flammable and Non-toxic Gases

2.2 Display of Dangerous Goods Markings for Oxidizing Gases

Background

- Under the TDGR, for dangerous goods UN1072, UN1073, UN3156 and UN3157 which have primary Class 2.2, Non-flammable and non-toxic gases and subsidiary Class 5.1, the oxidizing gas label/placard must be displayed instead of the primary Class 2.2 and subsidiary Class 5.1 labels/placards.
- In the US, for a small means of containment that contains any of the above dangerous goods, consignors and carriers have the choice to display either the oxygen gas label or labels for Division 2.2 (Non-flammable gas) and Division 5.1 (Oxidizer).
- In the US, for a large means of containment that contains any of the above dangerous goods, consignors and carriers have the choice to display:
  - the oxygen gas placard;
  - the non-flammable gas placard; or
  - the Non-flammable gas and Oxidizer placards.
- The UN Recommendations have not adopted the oxidizing gas nor the oxygen gas labels and placards; thus, the display of Class 2.2 and Class 5.1 labels/placards is required.

The table below illustrates the labels and placards required for UN1072, UN1073, UN3156, and UN3157 in accordance with the TDGR, the UN Recommendations and the 49 CFR.

Labels

TDGR	UN Recommendations	49 CFR
Oxidizing Gases 	Division 2.2 Non-flammable and Non-toxic Gases  AND Division 5.1 Oxidizing Substances  *(Text optional)	Non-flammable Gas  AND Oxidizer  OR Oxygen 

Placards

TDGR	UN Recommendations	49 CFR
Oxidizing Gases 	Division 2.2 Non-flammable and Non-toxic Gases  AND Division 5.1 Oxidizing Substances  (Text optional)	Non-flammable Gas  AND Oxidizer  OR Non-flammable Gas  OR Oxygen 

Challenges

In Canada, consignments that contain UN1072, UN1073, UN3156, or UN3157 must display the oxidizing gas label or placard. This can result in additional costs and compliance burden for consignors and carriers who transport internationally. For example, a means of containment containing UN1072 transported by air from Mexico and thus displaying placards for both Class 2.2 and Class 5.1 (in accordance with ICAO TIs) could not be reshipped within Canada until the Class 2.2 and Class 5.1 placards are removed and replaced with the oxidizing gases placard.

Alternative Approaches

Transport Canada is exploring the following options:

Option 1. Continue to require the oxidizing gases label/placard and allow the display of the oxygen gas label/placard in accordance with the 49 CFR;

Option 2. Allow the option of displaying either labels/placards for Class 2.2 and Class 5.1 or the oxidizing gases label/placard in accordance with the TDGR and allow either labels/placards for Class 2.2 and Class 5.1 or the "oxygen" labels/placards in accordance with the 49 CFR;

Note: TC is not proposing an option that would allow displaying only the Class 2.2 placard on a large means of containment, as permitted under the 49 CFR. Displaying the Class 2.2 placard alone would not communicate adequately the oxidizing hazard posed by these dangerous goods, thus compromising safety.

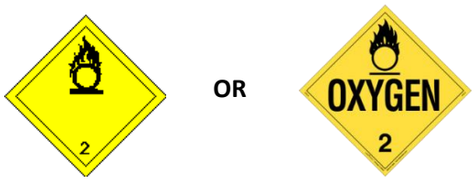
Option 3. "Status Quo": Display the oxidizing gas label and placard instead of the Class 2.2 and Class 5.1 labels and placards.

Please find the options illustrated in the table below.

Option 1. Continue to require the oxidizing gases label/placard and allow the display of the oxygen gas label/placard in accordance with the 49 CFR.

Outcome:

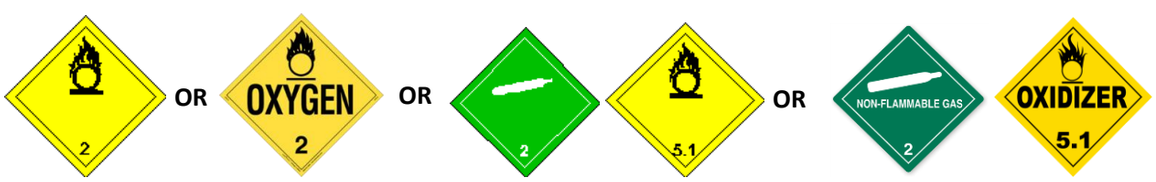
- In compliance with the 49 CFR;
- Not aligned with the UN Recommendations.



Option 2. Allow the display of TDGR labels/placards for either Class 2.2 and Class 5.1 or the oxidizing gases label/placard and allow the display of the US labels/placards for either Class 2.2 and Class 5.1 or the oxygen gas label/placard.

Outcome:

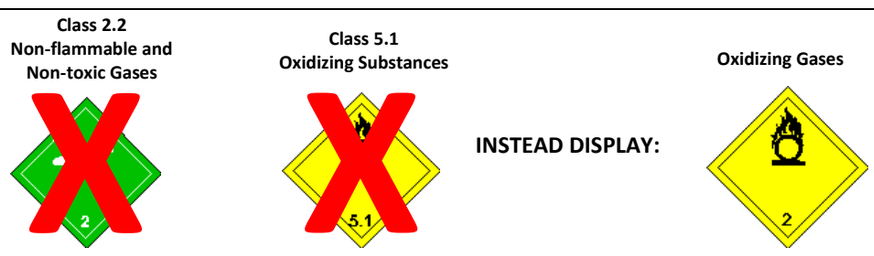
- In compliance with the 49 CFR;
- In compliance with the UN Recommendations;
- Multiple options to communicate the same hazards.



Option 3. "Status Quo": Display the oxidizing gases label/placard instead of the Class 2.2 and Class 5.1 labels/placards

Outcome:

- Not aligned with the UN Recommendations and 49 CFR.



3 Alignment with the United States Hazardous Materials Regulations

TC and the US Department of Transportation established an ongoing regulatory partnership through the United States-Canada Regulatory Cooperation Council (RCC), whose mandate is to promote economic growth and benefits to consumers and businesses through increased regulatory transparency and coordination. . The goal of this partnership is to increase regulatory cooperation and alignment between the two countries. To that effect, TC and the US Department of Transportation a have developed a work plan to enhance cooperation to improve regulatory reciprocity and promote safe and efficient cross-border transportation of hazardous materials.

3.1 Reciprocity for Transportation by Road and Rail

3.1.1 Transportation between Canada and the US

One aspect of the RCC work plan is the reciprocity of requirements for transport of dangerous goods by road and rail between Canada and the US. Both countries have formally recognized requirements in the regulations of the other. Under the TDGR, dangerous goods may be transported into or through Canada by road or rail in accordance with the classification, marking, labelling, placarding and documentation requirements of 49 CFR or a special permit issued under the 49 CFR instead of the requirements of the TDGR.

The US allows the transport of dangerous goods into or through the US from Canada or from the US into Canada in accordance with the TDGR or an equivalency certificate issued under the TDGR. While Canada provides reciprocity when dangerous goods are transported from the US, it does not allow dangerous goods to be transported from Canada to the US in accordance with the US regulations. Thus, under the TDGR, a shipment coming from the US that is rejected in Canada or an emptied MOC that is to be returned to the US cannot be transported in accordance with US regulations or a US special permit. Also, a shipment originating in Canada cannot be transported to the US in accordance with the 49CFR.

TC is proposing to amend the TDGR to allow a shipment of dangerous goods to be returned to the US, or a shipment originating in Canada to be transported to the US, in accordance with the classification, marking, labelling, placarding and documentation requirements of 49 CFR or a special permit issued under the 49 CFR.

Proposed Text
9.1 Transporting Dangerous Goods from the United States into or through Canada **(1)** Despite the requirements in Part 2 (Classification), Part 3 (Documentation) and Part 4 (Dangerous Goods Safety Marks), a person may handle or transport dangerous goods by road vehicle from a place in the United States to a place in Canada, ~~or~~ from a place in the United States through Canada to a place outside Canada or from a place in Canada to a place in the United States, in accordance with the classification, marking, labelling, placarding and documentation requirements of 49 CFR, if *[…]* **(3)** A person who handles or transports dangerous goods by road vehicle in accordance with an exemption issued under Subpart B of Part 107 of 49 CFR may do so from a place in the United States to a place in Canada, ~~or~~ from a place in the United States through Canada to a place outside Canada or from a place in Canada to a place in the United States if the exemption number appears on the shipping document.
10.1 Transporting Dangerous Goods from the United States into or through Canada **(1)** Despite the requirements in Part 2 (Classification), Part 3 (Documentation) and Part 4 (Dangerous Goods Safety Marks), a person may handle or transport dangerous goods by railway vehicle from a place in the United States to a place in Canada, ~~or~~ from a place in the United States through Canada to a place outside Canada, or from a place in Canada to a place in the United States, in accordance with the classification, marking, labelling, placarding and documentation requirements of 49 CFR, if *[…]* **(3)** A person who handles or transports dangerous goods by railway vehicle in accordance with an exemption issued under Subpart B of Part 107 of 49 CFR may do so from a place in the United States to a place in Canada or from a place in the United States through Canada to a place outside Canada or from a place in Canada to a place in the United States, if the exemption number appears on the shipping document.

3.1.2 Reshipping within Canada

Currently, under the TDGR, US placards may be displayed on a large means of containment transported by road or rail from the US into Canada only up to the first destination in Canada. Any reshipping activities, such as distribution, require placards that comply with Part 4 (Dangerous Goods Safety marks) the TDGR. This means that two sets of placards may be required for shipments that carry on past the first destination.

As part of the RCC initiative, TC is proposing to allow US placards to continue to be displayed when dangerous goods are reshipped by road or rail. This would reduce burden for shippers and consignors as they would no longer need to replace the placards on means of containment.

3.2 Punctuation Marks and Capitalization

To ensure that people are aware of the hazards when certain dangerous goods are transported, the TDGR and international regulations require specific words to be included on a shipping document or a means of containment. For example, “toxic – inhalation hazard” or “toxic by inhalation” must be included on the shipping document when dangerous goods that are toxic due to inhalation are transported.

Sometimes there is a difference in the spelling or punctuation required under the Canadian TDGR and the US 49 CFR. In other cases, one regulation presents the required wording in uppercase letters while the other regulation presents it in lower case letters. These variations create confusion and challenges for consignors and shippers who transport dangerous goods between Canada and the US. Consider the following examples.

Location of text	TDGR	49 CFR
On a shipping document	“Not Odourized” or “Not Odorized”	“non-odorized” or “not-odorized”
	“Residue — Last Contained”	“RESIDUE: Last Contained * * *”
	“marine pollutant”	“Marine Pollutant”
With the shipping name	“WASTE”	“Waste”
On an overpack	“Overpack”	“OVERPACK”

To facilitate the transport of dangerous goods between Canada and the US, TC is proposing to introduce a provision that would allow the use or absence of punctuation marks within text required by the regulations. It would also allow the use of either upper case or lower case letters. TC does not feel that the use of upper or lower case letters (“RESIDUE” vs “Residue”) or the addition of a hyphen between two words (“not-odorized” vs “not odorized”) negatively impacts the ability to communicate the hazard(s).

The provision in section 1.3 of the TDGR that allows shipping names to be written in either upper or lower case letters would remain, as would the requirement that, if the shipping name in Schedule 1 includes descriptive text, the descriptive text must be written in lower case letters and the shipping name in uppercase letters.

3.3 Exemptions

3.3.1 Water Pump System Tanks

Canada is proposing to harmonize with the US by introducing an exemption for pressurized tanks used in water pump systems. The US exemption allows water pump system tanks to be filled to 276 KPa with compressed air or nitrogen be transported to installation sites without having to meet the marking and specification packaging requirements. A number of conditions need to be met in order to use the exemption. The conditions include:

- the tank being made of steel with heads welded concave to pressure,
- pneumatic testing to 100 psig with the test pressure marked on the tank,
- maximum wall stress requirements,
- burst pressure at least 6 times the charge pressure, and
- a requirement that the tank be packed in strong outer packaging for transport.

The proposed TDGR exemption would reflect the US exemption but would apply to UN1002, AIR, COMPRESSED, Class 2.2, UN1066, NITROGEN, COMPRESSED, Class 2.2, and UN1046, HELIUM, COMPRESSED, Class 2.2, because TC currently issues equivalency certificates which provide the same exemption for water pump system tanks that contain these three compressed gases. The exemption would also include an additional condition to conduct leak tests when the tanks contain compressed helium.

TC currently issues equivalency certificates to provide an exemption for composite water pump system tanks and for tanks with a diameter as large as 26 inches (instead of the 24 inch limit in the US exemption). To reduce administrative burden, TC proposes to remove the need to apply for these equivalency certificates by allowing the exemption to be used for tanks with a diameter up to 26 in and for tanks made out of composite materials. The burst pressure condition in the exemption would be adjusted to 15 times the charge pressure for composite tanks.

3.3.2 Small Quantities for Highway

TC is currently analysing the *Small Quantities Exemption* under the 49 CFR. The US exempts small quantities of authorized dangerous goods from most of the regulations when transported within the US by highway or rail. Some of the conditions required to use this exemption include:

- Rigorous packaging tests (five different 1.8m altitude dropping tests and a stacking test);
- Marking on the outer packaging "*This package conforms to 49 CFR 173.4 for domestic highway or rail transport rail"*;
- A 29 kg maximum weight of the outer means of containment.

Presently, under the TDGR, the transportation of certain dangerous goods in very small amounts cannot benefit from any exemption. Their transportation requires full compliance with the regulations.

Adopting the *Small Quantities Exemption* would mean that these dangerous goods could be transported under relaxed requirements. Some examples of dangerous goods include:

UN3469 PAINT, FLAMMABLE, CORROSIVE (Class 3, Packing Group I),
UN3098 OXIDIZING LIQUID, CORROSIVE, N.O.S. (Class 5.1, Packing Group I),
UN3111 ORGANIC PEROXIDE TYPE B, LIQUID, TEMPERATURE CONTROLLED (Class 5.2, Packing Group II)

Before TC considers adopting this exemption, input from affected parties is required to gain a better understanding of the current needs in Canada and evaluate the impacts.

We strongly encourage you, stakeholders, enforcement personnel, first responders and public in general to provide feedback and data on the following questions:

- Do you find that the exemptions under limited quantities or excepted quantities are too restrictive?
- How would you benefit from the "*Small Quantities Exemption*"?
- Would you have any safety concerns if the "*Small Quantities Exemption*" were adopted?
- From an enforcement perspective, would you find it difficult to enforce the transportation of dangerous goods under this exemption?

3.4 Odourization of Liquefied Petroleum Gases

3.4.1 Requirements to Odourize Liquified Petroleum Gases

Liquefied petroleum gas (LPG) has almost no odour when produced at the refinery. To protect people near or handling LPG, ethyl mercaptan is added in trace quantities as an odourizer. Mercaptan has a strong, unpleasant odour which is readily detectable and serves as a warning in the event of an LPG leak.

The TDGR reference safety standards for the selection and use of means of containment which include requirements for odourizing LPG. However, these standards are not the ideal location for such requirements.

TC proposes to align with the US 49 CFR by adding a new special provision to require the odourization of LPG and other gases that can be transported under UN1075, LIQUIFIED PETROLEUM GASES. The special provision would require that LPG used as fuel be odourized in accordance with CAN/CGSB-3.14, *Propane for fuel purposes*, and for other LPG it would set out requirements such as the concentration of ethyl mercaptan that must be added and procedures to ensure that enough odourant will remain in the means of containment during the course of transportation. As in the US regulations, odourization of these dangerous goods would not be required if the odourization would be harmful in the use or further processing of the liquefied petroleum gas or if it would serve no useful purpose as a warning agent in such use or further processing. The odourization of LPG is useful for detection of potential leaks when the product is used as a fuel, however LPG may also be used as a propellant in household aerosol products where the odourization of the gas would provide no benefit and would result in a less desirable product. In addition, TC proposes that odourization would not be required for LPG that is transported in aerosol containers or gas cartridges.

3.4.2 Requirements to Mark a Means of Containment Containing Non-odourized LPG

The US requires that the words “NON-ODORIZED” or “NOT ODORIZED” be marked on a means of containment if it contains LPG that has not been odourized. The TDGR require the identification of non-odourized LPG on a shipping document, but they do not include requirements to mark a means of containment to indicate that it contains non-odorized LPG.

TC is proposing to add a new section to Part 4 (Dangerous Goods Safety Marks) with requirements similar to those in the US 49 CFR. It would require that a cylinder, portable tank, highway tank or tank car containing non-odorized LPG be marked with the words “NON-ODOURIZED”, “NOT ODOURIZED”-, “NON-ODORIZED”, “NOT ODORIZED” or “SANS ODORISANT”. To align with the US regulations, the proposal would allow these words to be displayed on a means of containment that is used for both odourized and non-odourized LPG. The US included this option to address comments heard during consultation regarding burden and safety concerns associated with adding and removing the mark, particularly on tank cars. They determined that allowing the mark to be displayed on a means of containment containing odourized LPG would not compromise safety. Emergency responders know to take appropriate action if the LPG in the means of containment is odourized even if the mark indicates that the contents may not be odourized.

The identification of non-odourized flammable gasses on a means of containment would align with the US requirements and bring an additional level of safety as it would immediately communicate information on the hazards posed by the dangerous goods.

Proposed Text
4.26 Unodorized Liquefied Petroleum Gases **(1)** A person must not import, offer for transport, handle or transport the following dangerous goods if they are unodourized unless they meet the conditions in special provision X *(new special provision for odorizing LPG)* and the words “non-odorized”, “not odorized”, “non odourized”, “not odourized” or “sans odorisant” are displayed on the means of containment in accordance with subsection (2): **(a)** UN1011 BUTANE; **(b)** UN1012 BUTYLENE; **(c)** UN1055 ISOBUTYLENE; **(d)** UN1075 LIQUIFIED PETROLEUM GASES; **(e)** UN1077 PROPYLENE; **(f)** UN1969 ISOBUTANE; **(g)** UN1978 PROPANE; **(2)** in the case of **(a)** a small means of containment, in letters at least 6.3 mm high, next to the shipping name; **(b)** a large means of containment, on two opposite sides of the large means of containment, in addition to any placard or placard and UN number required by this Part, in letters **(i)** at least 6 mm wide and 100 mm high in the case of a tank car, **(ii)** at least 4 mm wide and 25 mm high in the case of a portable tank, and **(iii)** at least 6 mm wide and 50 mm high in the case of all other large means of containment. **(3)** The words required in subsection (1) may be displayed on a means of containment that is used for both unodourized and odourized liquefied petroleum.

4 Proposal to Modernize Part 4 (Dangerous Goods Safety Marks)

While the proposal to allow US placards to be used for reshipping would address the majority of the issues, having a more uniform marking system with the US would be beneficial. Thus, to promote and support RCC's work plan and advance TC's modernization initiative, TC is exploring options for aligning more closely with the US labelling and placarding requirements.

To this end, TC is proposing to revise the labelling and placarding requirements for:

1. Toxic substances of Class 2.3 and Class 6.1; and
2. The display of labels and placards on an empty means of containment.

We seek your feedback on the benefits and possible negative impacts these proposals could have on your respective sector. This is an opportunity to hear from you, stakeholders, first responders, enforcement personnel and the public in general. We encourage you to share your opinions and your own proposals to modernize the labelling and placarding requirements.

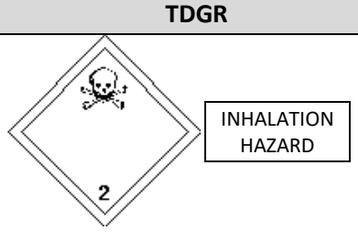
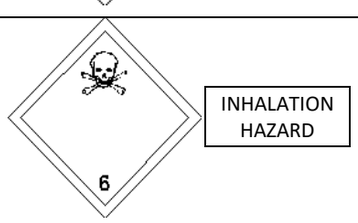
You will find the description of each topic presented in the paragraphs below, including background information, current challenges and alternative approaches.

4.1 Toxic Substances of Class 2.3 and Class 6.1

Background

- Under the TDGR, labels and placards for dangerous goods in Class 2.3, Toxic gases and Class 6.1 Toxic substances display a skull and crossbones in the top corner and the class number in the bottom corner, aligning with the UN Recommendations.
- In addition, the TDGR require the display of the words "INHALATION HAZARD" on the means of containment for toxic substances of Class 2.3 and Class 6.1 that are toxic by inhalation (TIH).
- Under the 49 CFR, TIH substances must display and additional symbol, a black diamond illustrated in the top corner of a label or placard. The words "INHALATION HAZARD" are also required.
- Under the TDGR, labels and placards for TIH substances do not have any additional symbol that identifies exclusively TIH substances.
- Canada does not allow US labels and placards for Class 2.3 and Class 6.1. Thus, consignments that come from the US containing these dangerous goods must display labels and placards as required under the TDGR.
- The US allows the display of labels and placards for TIH substances in accordance with the TDGR for shipments to or from Canada, provided the US placards are also displayed.
- The UN Recommendations have not adopted the black diamond symbol for TIH substances.

The table below illustrates the labels and placards for Class 2.3 and Class 6.1 in accordance with the TDGR, the UN Recommendations and the 49 CFR.

Class/Division	TDGR	UN Recommendations	49CFR
Class/Division 2.3, Toxic gases			
For TIH substances of Class 6.1, Toxic substances			
Other toxic substances of Class 6.1, Toxic substances			

Challenges

Due to the difference in labelling and placarding requirements for Class 2.3 and Class 6.1 between Canada and the U.S., consignors and carriers who transport these dangerous goods from Canada to the US and vice versa must have two sets of placards in order to comply with both the TDGR and the 49 CFR, adding costs and compliance burden.

Alternative Approaches

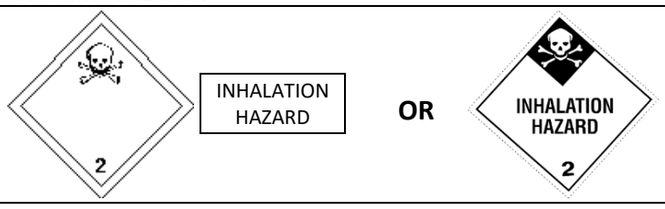
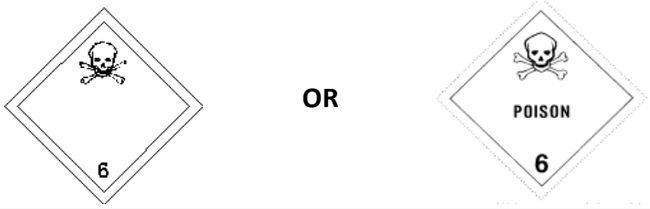
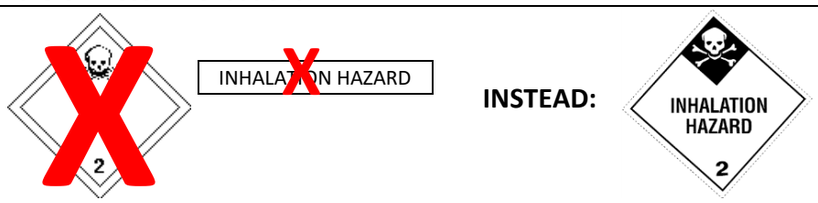
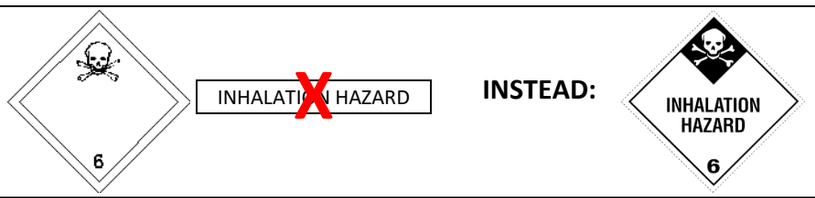
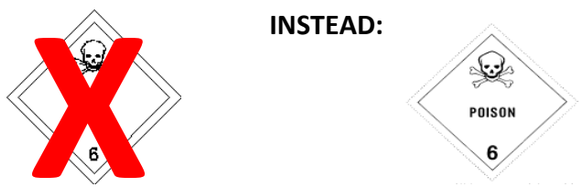
Transport Canada is exploring the following options:

Option 1. Allow the display of labels and placards for Class 2.3 and Class 6.1 in accordance with the 49 CFR;

Option 2. Replace current TDGR labels and placards with those under the 49 CFR;

Option 3. "Status Quo": Maintain the labels and placards for Class 2.3 and Class 6.1.

Please find the options illustrated in the table below.

<table>
<tr><td colspan="2">Option 1. Allow the display of labels and placards for Class 2.3 and Class 6.1 in accordance with the 49 CFR.
Outcome:
• In compliance with the UN Recommendations and the 49 CFR;
• Multiple options to communicate the same hazards.</td></tr>
<tr><td>Class/Division 2.3, Toxic Gases</td><td> 
</td></tr>
<tr><td>For TIH substances of Class 6.1, Toxic substances</td><td> 
</td></tr>
<tr><td>Other toxic substances of Class 6.1, Toxic substances</td><td> 
</td></tr>
<tr><td colspan="2">Option 2. Replace current TDGR labels and placards with those under the 49 CFR.
Outcome:
• In compliance with the 49 CFR;
• Not aligned with the UN Recommendations.</td></tr>
<tr><td>Class/Division 2.3, Toxic gases</td><td> 
</td></tr>
<tr><td>For TIH substances of Class 6.1, Toxic substances</td><td> 
</td></tr>
<tr><td>Other toxic substances of Class 6.1, Toxic substances</td><td> 
</td></tr>
</table>

Option 3. "Status quo": Maintain the requirements for labels and placards for Class 2.3 and Class 6.1.

Outcome:

- Partial alignment with the UN Recommendations;
- Partial alignment with the 49 CFR.

Class 2.3, toxic gases	Class 6.1, toxic substances	
	For TIH substances	Other toxic substances
		

4.2 Labels and Placards on an Empty Means of Containment

Background

- A means of containment is "empty" when it has not been used and is intended to contain dangerous goods, or one that has previously contained dangerous goods but has been cleaned, purged of vapours, or refilled with a non-dangerous good to eliminate any hazardous substance.
- Under the TDGR, the display of dangerous goods safety marks on an empty means of containment is not permitted.
- In accordance with the 49 CFR, markings on an empty means of containment may be displayed provided any marking indicating the presence of dangerous goods is covered or the means of containment is transported inside a closed vehicle.

Challenges

For a means of containment that is empty but marked, and intended to be loaded or reloaded, the removal of markings adds costs and creates compliance burden. For example, racks containing lithium batteries are required to display hazard labels. In the US, these placards may remain on the empty racks for shipment back to the battery supplier, provided they are transported inside a closed vehicle or the placards are not visible during transportation. However, under the TDGR, once the batteries have been unloaded from the racks, the placards must be removed.

Alternative Approaches

Transport Canada is exploring the following options:

Option 1. Allow the display of markings on an empty means of containment provided any marking indicating the presence of dangerous goods is covered or the means of containment is transported inside a closed vehicle;

Option 2. "Status Quo": Prohibit the display of markings on an empty means of containment.

Please find the options illustrated in the table below.

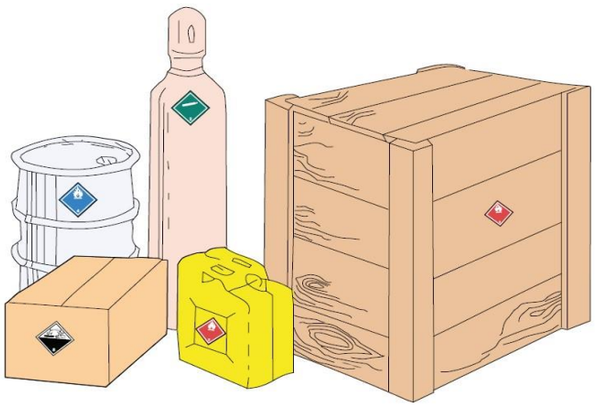
Option 1. Allow markings on an empty means of containment provided any marking indicating the presence of dangerous goods is covered or the means of containment is transported inside a closed vehicle.

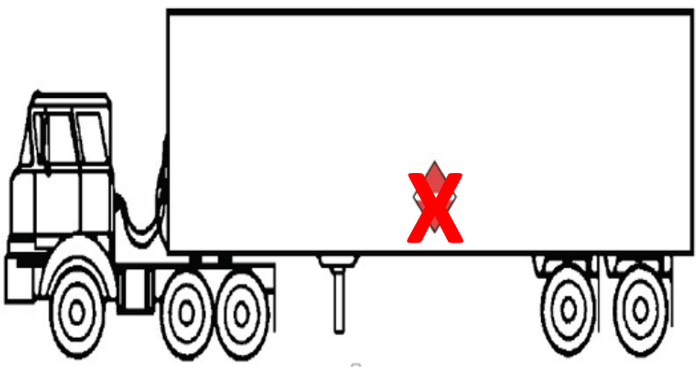
Outcome:

- Alignment with the 49 CFR.

In this example, the cylinder, drum, box, jerrican and plywood box are empty. They have been properly cleaned to remove any trace of dangerous goods. These means of containments still display labels because they will be transported inside a closed vehicle.

The truck that transports these dangerous goods does not display any placards that communicate the presence of dangerous goods.





Option 2. "Status Quo": Prohibit the display of markings on empty means of containments.

Outcome:

- Misalignment with the 49 CFR.

In this example, the cylinder, drum, box, jerrican and plywood box are empty. They have been properly cleaned to remove any trace of dangerous goods.

Thus, in accordance with the TDGR, they cannot display any labels that would indicate the presence of dangerous goods.