Dangerous Goods,
Rail Safety & 511 Alberta

A Technical Publication from the Co-ordination and Information Centre

A Guide to the Transportation of Dangerous Goods Regulations

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Alberta Government

This material is meant as a guide to certain parts of the Transportation of Dangerous Goods Regulations and is not meant to be a substitute for them. It is the responsibility of handlers, offerers and transporters of dangerous goods to consult the Regulations for the exact requirements. The Coordination and Information Centre of Alberta Transportation can provide accurate information regarding the Regulations 24 hours a day.

Co-ordination and Information Centre

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These telephone lines are recorded to assist in responding to the emergency (natural/manmade) and/or inquiry regarding dangerous goods and to ensure that the information is accurate. Direct any questions regarding the recording to the Compliance Officer responding to your call or contact the Manager of the CIC at 780-427-8660. ***Legal Authority: Dangerous Goods Transportation and Handling Act, Section 13(1).***

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INTRODUCTION

The purpose of the Transportation of Dangerous Goods Regulations is to promote safety in handling, offering for transport and transporting of dangerous goods.

Dangerous Goods, Rail Safety and 511 Alberta Branch of Alberta Transportation has the responsibility of administering the legislation for those areas which are provincial responsibility. In order to assist manufacturers, importers, shippers and carriers with the legislation, the Dangerous Goods and Rail Safety Branch has a 24 hour, seven day emergency and information centre. The Co-ordination and Information Centre (CIC) can be reached at 422-9600 in Edmonton or toll free 1-800-272-9600 for the remainder of Alberta.

If you require a copy of the TDG Regulations, it can be obtained in electronic format from the dangerous goods website of Transport Canada. The address is:

http://www.tc.gc.ca/tdg

1. CLASSIFICATION AND CHARACTERISTICS OF DANGEROUS GOODS

The TDG Regulations divide dangerous goods into 9 classes according to the type of hazard they present. Some of these are divided into divisions due to the nature and characteristic of the substances.

Table 1

Class	Division	Characteristics of Dangerous Goods
1 Explosives (Sections 2.9 – 2.12)	1.1	A substance or article with a mass explosion hazard
	1.2	A substance or article with a projection hazard but not a mass explosion hazard
	1.3	A substance or article which has a fire hazard and either a minor blast hazard or a minor projection hazard or both, but does not have a mass explosion hazard
	1.4	A substance or article which presents no significant hazard beyond the package in the event of ignition or initiation during transport
	1.5	A very insensitive substance with a mass explosion hazard
	1.6	Extremely insensitive article with no mass explosion hazard
2 Gases (Sections 2.13 – 2.17)	2.1	A flammable gas which is easily ignited and burns
	2.2	A non-flammable, non-toxic, non-corrosive gas
	2.3	A toxic gas
3 Flammable Liquids (Sections 2.18 – 2.19)	None	A flammable liquid with a closed-cup flash point less than or equal to 60.0° C
4 Flammable Solids (Sections 2.20 – 2.22)	4.1	A flammable solid which is readily combustible and may cause fire through friction or from heat retained from manufacturing
	4.2	A spontaneously combustible substance that ignites when exposed to air
	4.3	A water-reactive substance which emits flammable gas when it comes into contact with water

Class	Division	Characteristics of Dangerous Goods
5 Oxidizing Substances, Organic Peroxides (sections 2.23 – 2.25)	5.1	An oxidizing substance which may yield oxygen and contribute to the combustion of other material
	5.2	An organic peroxide which releases oxygen readily and may be liable to explosive decomposition, or sensitive to heat, shock or friction
6 Toxic and Infectious Substances (sections 2.26 – 2.36)	6.1	A toxic substance that is liable to cause harm to human health
	6.2	An infectious substance
7 Radioactive Materials (sections 2.37 – 2.39)	None	Radioactive materials as defined in the Packaging and Transport of Nuclear Substance Regulations.
8 Corrosive Substances (sections 2.40 – 2.42)	None	Solids or liquids such as acids or alkali materials that cause destruction of the skin or corrode metals
9 Miscellaneous Products, Substances or Organisms (sections 2.43 – 2.45)	None	A regulated substance that cannot be assigned to any other class. It includes genetically modified micro-organisms, marine pollutants and substances transported at elevated temperatures.

In addition to the class and division, some dangerous goods are also assigned packing groups. These groups reflect the level of hazard that dangerous goods represent.

Packing Group	Level of Hazard
I	Very hazardous substances
II	Hazardous substances
III	Moderately hazardous substances

The assignment of packing groups is done according to chemical and physical testing requirements outlined for each class of dangerous goods in Part 2 of the TDG Regulations.

2. DOCUMENTATION

Consignor Responsibilities

A consignor is defined as a person in Canada who is named in the shipping document as the consignor; imports or who will import dangerous goods into Canada; or if the previous do not apply, has possession of dangerous goods immediately before they are in transport. It is the responsibility of the consignor to prepare and give a shipping document to the carrier or an electronic copy, if the carrier agrees. If the consignor is an importer of dangerous goods then he or she must make sure that the carrier has a shipping document prior to the dangerous goods being transported in Canada [Section 3.1].

Carrier Responsibilities

A carrier is defined as a person who, whether or not for hire or reward has possession of dangerous goods while they are in transport. A carrier must not take possession of a shipment of dangerous goods unless they have a shipping document for the dangerous goods. If the carrier accepts an electronic copy of a shipping document then they must produce a paper copy to carry with the shipment [Section 3.2].

If the dangerous goods are passed to another person, the carrier must provide a copy of the shipping document to that other person who could be another carrier or the consignee (final receiver) of the dangerous goods.

Location of Shipping Document

The driver of a power unit must ensure that a copy of the shipping document is kept in a pocket mounted on the driver's door, or within the driver's reach. If the driver leaves the power unit he or she must place the document in the door pocket, on the driver's seat or on a location that is clearly visible to anyone entering the power unit through the driver's door [Section 3.7]

After unloading a shipment of dangerous goods or disconnecting a cargo unit (for example, a trailer) from a power unit, the carrier must place the shipping document in a waterproof receptacle attached to or near the means of containment containing the dangerous goods. This is necessary if the shipment is left in an unsupervised area or possession of the dangerous goods has not been transferred to another person [Section 3.10].

Information on the Shipping Document

The information on a shipping document must be easy to identify, legible and printed in indelible ink. The shipping document may be prepared in English or in French [Section 3.4]. The table below describes the minimum required information that must appear on a shipping document.

A shipping document template is included at the end of this bulletin.

The following is the minimum required information that must appear on a shipping document:

Shipping Document Information	When Required	Where in The Regulations
Date	Always	3.5(1)(b)
Name and address of consignor	Always	3.5(1)(a)
Description of goods in the following order		
a. UN number	Always	3.5(1)(c)(i)
b. Shipping name	Always	3.5(1)(c)(ii)
c. The technical name of the most dangerous substance related to the primary classification	If Provision 16 of Schedule 2 applies	3.5(1)(c)(ii)(A)
d. The words “Not Odorized”	For liquefied petroleum gas that has not been odorized	3.5(1)(c)(ii)(B)
e. Primary classification	Always	3.5(1)(c)(iii)
f. Compatibility group	For Class 1	3.5(1)(c)(iv)
g. Subsidiary classifications	If Any	3.5(1)(c)(v)
h. Packing group	If Any	3.5(1)(c)(vi)
The words “Toxic by inhalation” or “toxic – inhalation hazard”	If Provision 23 of Schedule 2 applies	3.5(1)(c)(vii)
The quantity in the International System of Units (SI) for each shipping name [1, 2]	Always	3.5(1)(d)
The net explosive quantity	For Class 1 as per Provision 85 and 86 of Schedule 2	3.5(1)(d)
The number of containers[2]	For dangerous goods in small containers requiring safety labels	3.5(1)(e)
The words “24-Hour Number” followed by a telephone number where the consignor can easily be reached[3]	Always	3.5(1)(f)
Consignor’s Certification[4]	Always	3.6.1
Emergency Response Assistance Plan (ERAP) number and telephone number to	If Required	3.6(1)

activate it		
The control and emergency temperatures	For products in Classes 4.1 and 5.2	3.6(3)
The words “Fumigated Unit”	As required	3.5(3)
Additional information for Class 7[5]	As required	3.6(3)(d)

Note:

1. If the quantity of dangerous goods is less than 10% of the container’s maximum fill limit then the words “Residue – Last Contained” followed by the shipping name of the dangerous goods last contained in the means of containment may be used to describe the quantity. This does not apply to Class 2 gases in small containers and Class 7 radioactive substances [Section 3.5(4)].

2. Multiple Deliveries: If the quantity of dangerous goods or the number of small means of containment changes during transport, the carrier must show the change on the shipping document or on a document attached to the shipping document. [Section 3.5(5)].

3. The telephone number of someone who is not the consignor, but who is competent to give technical information on the shipment, such as CANUTEC, may be used instead. To use CANUTEC’s phone number, the consignor must receive permission, in writing, from CANUTEC. A consignor who uses the telephone number of an organization or agency other than CANUTEC must ensure that the organization or agency has current, accurate information on the dangerous goods the consignor offers for transport and, if the organization or agency is located outside Canada, the telephone number must include the country code and, if required, the city code [Section 3.5 (2)].

4. Consignor’s Certification: “I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, are properly classified and packaged, have dangerous goods safety marks affixed or displayed on them, and are in all respects in proper condition for transport according to the Transportation of Dangerous Goods Regulations.” (Section 3.6.1)

5. Additional requirements can be found in “Packaging and Transport of Nuclear Substances Regulation”

Radioactive materials have special documentation requirements. Dangerous goods shipped by air must be documented in a prescribed form known as "Shipper’s Declaration for Dangerous Goods". For details of alternate and additional documentation requirements, consult Part 3 of the TDG Regulations or call the Coordination and Information Centre at 1-800-272-9600.

Waste Manifest

A waste manifest or recycling docket produced by Alberta Environment and Parks is an acceptable dangerous goods shipping document, as it contains all the requirements listed in Section 3.5 of the TDG Regulations.

A waste manifest or recycling docket is used when shipping a dangerous good that is no longer in its original form and is intended for treatment, disposal or recycling. These forms are serialized pre-printed forms which are only available through government offices. In order to obtain these documents, please call Alberta Environment and Parks at (780) 427-0666 (for a toll free call in Alberta dial 310-0000).

Oilfield Waste Manifest

When shipping oilfield production wastes a special waste manifest is used. This document was developed by the Alberta Energy Regulators (AER) and meets the requirements for a waste manifest as specified by Alberta Environment. This document is similar to the waste manifest described previously but uses a different waste tracking system.

For information, contact your nearest AER Customer Contact Centre at 1-855-297-8311.

3. SAFETY MARKS

Safety marks are the placards, labels and package markings which identify dangerous goods shipments. Anyone who offers for transport, transports or imports a means of containment that contains dangerous goods must display the safety marks required by the TDG Regulations [Section 4.1].

A person must not display a safety mark on a means of containment if that safety mark is misleading as to the contents or potential danger [Section 4.2].

A person must not load or pack dangerous goods into a large means of containment unless the means of containment displays the safety marks required before the dangerous goods are loaded [Section 4.3].

The **consignor** (shipper) must ensure that each package of dangerous goods is properly labeled and marked and that all necessary placards are provided. It is the consignor's responsibility to provide the safety marks to the carrier [Section 4.4].

The **carrier** is responsible for displaying the required safety marks on the large means of containment and ensuring that the required safety marks remain displayed on the small means of containment and the large means of containment. The carrier must also provide, display or remove the safety marks if the requirements for them change while in transport. [Section 4.5].

GENERAL FEATURES OF ALL SAFETY MARKS

All safety marks must be:

- visible and legible;
- displayed against a background of contrasting colour;
- made of durable, weather-resistant material; and
- displayed in colours specified in the Pantone® "Formula Guide", the Part 172 of CFR 49 or Chapters 5.2 and 5.3 of the UN Dangerous Goods Recommendations [Section 4.6].

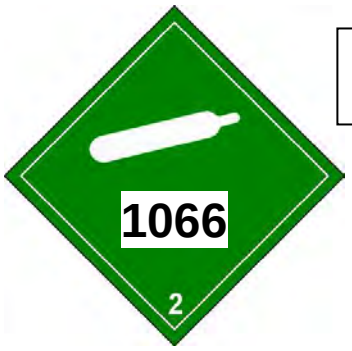
Small Means of Containment

A small means of containment has a capacity of 450 litres or less. A small means of containment must display the dangerous goods label(s), the shipping name, the technical name (if applicable) and the UN number of the product [Sections 4.10 to 4.12]. A label must be at least 100 mm on each side. If the container is too small or it has an irregular shape, the label can be reduced in size up to a dimension of 30 mm on each side [Section 4.7(2)]. If the label is reduced in size to 30 mm, the UN number, shipping name and label may be displayed on a tag affixed to the means of containment [Section 4.10(4)].

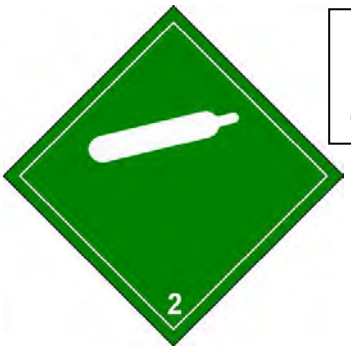
If the size of the label is reduced, every symbol, letter and number required on that label must be reduced proportionally. If a small means of containment is placed inside another, and the outer container is not opened during loading, transport or unloading, then the label is required to be displayed only on the outer small means of containment [Section 4.10(1)(a)].

The **UN Number** must also be displayed either within a white rectangle located on the primary class label itself or next to the primary class label [Section 4.8(a) and Section 4.12(1)]. When the primary class label for dangerous goods in transport is displayed on a tag, the UN number must also be displayed on the tag on or next to the primary class label [Section 4.12(2)]. If the UN number is displayed on the label itself, the letters “UN” must not be displayed with the number [Section 4.8(1)(b)].

Example of Safety Marks for a Small Means of Containment
In this case the product is compressed nitrogen



NITROGEN,
COMPRESSED



UN 1066
NITROGEN,
COMPRESSED

Class 2.2 safety label is green with a white cylinder symbol

If a small means of containment is placed inside another, and the outer container is not opened during loading, transport or unloading, then the label is required to be displayed only on the outer small means of containment [Paragraph 4.10(1)(a)].

If the shipment includes dangerous goods in Class 7, Radioactive Materials, then two labels are required on the small means of containment [Paragraph 4.10(1)(c)]. The labels

must be displayed on two opposite sides of the outer surface of a small means of containment [Paragraph 4.10(3)(c)]. When a small means of containment contains a radioactive material, a label is not required to be displayed if the shipping name and UN number of the radioactive material are displayed on the small means of containment and the radioactive material is contained in an exposure device, and the small means of containment is marked in accordance with paragraph 16(5)(a) of the "Packaging and Transport of Nuclear Substances Regulations" or the radioactive material is LSA-I material, and the small means of containment is marked in accordance with paragraph 16(5)(c) of the "Packaging and Transport of Nuclear Substances Regulations" [Subsection 4.10(5)].

When a small means of containment is inside an overpack and a safety mark is required by Part 4 of the Transportation of Dangerous Goods Regulations, the **person who prepares the overpack** must display the word the word "**Overpack**" on at least one side of the overpack, the information required by subsection 4.10.1(3) on **one side** of the overpack, if its capacity is **less than 1.8 m3 (64 cubic feet)**, and the information required by subsection 4.10.1(3) on **two opposite sides** of the overpack, if its capacity is **greater than or equal to 1.8 m3 (64 cubic feet)** [Subsection 4.10.1(1)].

When a label is required by Part 4 of the Transportation of Dangerous Goods Regulations to be displayed on a small means of containment that is inside a consolidation bin, an indication of each class of dangerous goods contained in the consolidation bin must be clearly and legibly displayed on the consolidation bin. It can either be a **tag** or a **fixed display device** (white board or a simple piece of paper) that will be updated every time a dangerous good is removed or added (Section 4.10.2).

For details on labelling, please consult the "Safety Mark" bulletin published by Dangerous Goods, Rail Safety and 511 Alberta.

Large Means of Containment

A large means of containment has a capacity greater than 450 litres. Placards representing the various chemical hazards are placed on all four sides of large means of containment or transport units. Placards can be used to represent both the primary and the subsidiary class of the dangerous goods in transport.

Each side of a placard must be at least 250 mm in length. Except for the DANGER placard, all placards have a line running 12.5 mm inside the edge. If the large means of containment has an irregular shape or its size is too small, the placard can be reduced in size but the dimensions must never be less that 100 mm on each side [Section 4.7(3)].

The UN number must be displayed in the centre of the placard or on an orange panel next to the placard in black numerals not less than 65 mm high. The letters “UN” are not displayed. [Subsection 4.8(2)].

Example of a Placard for a Large Means of Containment
GASOLINE, UN 1203, Class 3, Packing Group II

Class 3 placards have a red background and a white flame symbol

A **subsidiary class placard** must also be displayed on each side and each end of a large means of containment for dangerous goods for which an ERAP is required and that have a subsidiary classification of:

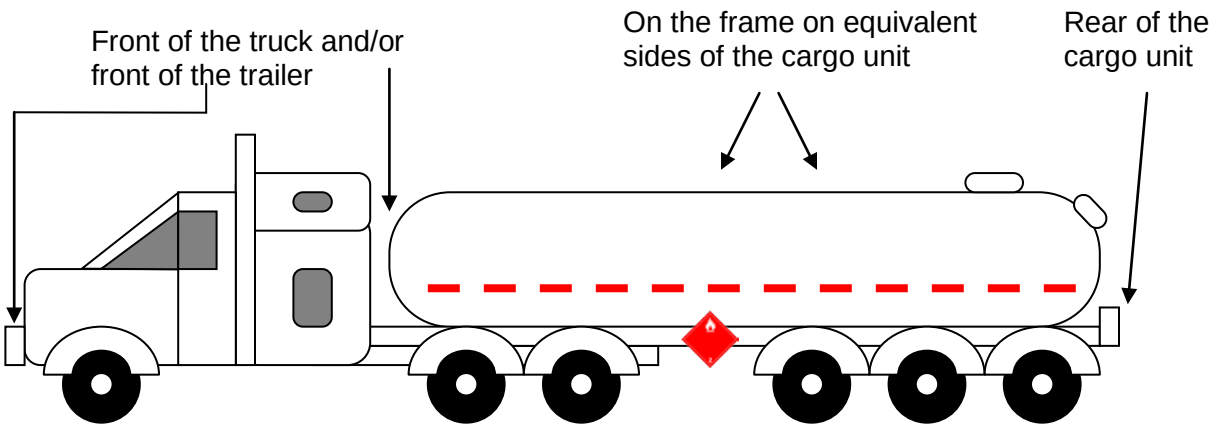
- Class 1: the placard will be the same as for Classes 1.1, 1.2 and 1.3.
- Class 4.3.
- Class 6.1, in Packing Group I.
- Class 8, and the UN number is UN2977 and UN2978 (both these products are uranium hexafluoride radioactives) [Section 4.15.1].

Example of a Subsidiary Class Placard
HYDROGEN FLUORIDE, ANHYDROUS, UN1052, Class 8 (6.1), Packing Group I

Both Class 8 and Class 6.1 placards have white backgrounds and black symbols

A placard, or a placard and UN number, must be displayed on each side and on each end of a large means of containment except in the case of a large means of containment that is permanently connected to a frame. Placards may be displayed on the **frame** if the resulting position of the placard, or the placard and UN number, is equivalent on each side and on each end of the means of containment. In the case of a large means of containment that is a trailer unit, the placard, or the placard and UN number, may also be displayed on the **front of the vehicle** that is attached to the trailer unit rather than on the leading end of the trailer unit. The placards must be displayed on all four sides of a large means of containment [Section 4.15.3], and must be visible, legible and displayed against a background of contrasting colour [Section 4.6].

Placard Locations



If two or more dangerous goods have different UN numbers but are identified by the same placard or placards, the placard or placards are required to be displayed only once on each side and on each end of a large means of containment regardless of how many products in the large means of containment have that class (primary or subsidiary) [Section 4.15].

DANGER PLACARD

The display of a DANGER placard is **not mandatory but it is permitted** to be displayed on a large means of containment instead of any other placard if the large means of containment contains two or more dangerous goods that require different placards and the dangerous goods loaded into the large means of containment are contained in two or more small means of containment [Section 4.16 (1)].

Example of a DANGER Placard

The DANGER placard must **not** be displayed on a large means of containment for [Section 4.16 (2)]:

(a) Dangerous goods that have a gross mass greater than 1 000 kg, are included in the same class and are offered for transport by one consignor.

(b) Dangerous goods that require an Emergency Response Assistance Plan (ERAP).

(c) Dangerous goods included in Class 1, Explosives.

(d) Dangerous goods included in Class 2.3, Toxic Gases.

(e) Dangerous goods included in Class 4.3, Water-reactive Substances.

(f) Dangerous goods included in Class 5.2, Organic Peroxides, Type B, liquid or solid, that require a control or emergency temperature.

(g) Dangerous goods included in Class 6.1, Toxic Substances, subject to Special Provision 23. (Refer to Pages 7 and 8)

(h) Dangerous goods included in Class 7, Radioactive Materials, that require a Category III – Yellow label [Subsection 4.16(2)].

Orientation of Labels and Placards

Labels and placards must be displayed “square on a point”. That is, resting on a corner rather than on a side [Section 4.7(1)]. The example below shows the proper orientation.

Safety Mark Orientation	
Correct	Incorrect

For details on safety marks, please consult the “Safety Mark” bulletin published by Dangerous Goods, Rail Safety and 511 Alberta.

4. TRAINING

Anyone who handles, offers for transport or transports dangerous goods must be adequately trained and have a valid Dangerous Goods Training Certificate or must be in the presence of and under the direct supervision of a trained person.[Section 6.1].

A person is adequately trained if the person has sound knowledge of the topics listed below that relate directly to the person's duties [Section 6.2]:

- classification of dangerous goods, shipping names, UN numbers, packing groups;
- schedules 1, 2 and 3
- shipping documentation;
- safety marks;
- certification safety marks, safety requirements and safety standards;
- emergency response assistance plan requirements;
- reporting requirements;
- safe handling and transportation practices, including characteristics of dangerous goods;
- proper use of equipment; and
- emergency measures to take in case of releases.

The employer issues a training certificate when he/she has reasonable grounds to believe that an employee possesses adequate training. A training certificate must have the following information [Section 6.3(1)]:

- the name and address of the place of business of the employer,
- the name of the employee,
- the date when the training certificate expires preceded by the words "Expires on" , the aspects of handling, offering for transport or transporting dangerous goods for which the employee is trained, and
- the signatures of the employer and the employee [Section 6.3(3)]

A self-employed person who has reasonable grounds to believe that he or she is adequately trained and who will perform duties to which the training relates must issue to himself or herself a training certificate [Section 6.3(2)].

The employer or self-employed person must keep a record of training and a copy of a training certificate from the date the training certificate was issued until two years after it expires [Section 6.6].

The training certificate must be immediately presented to an inspector who requests it [Section 6.8].

5. REPORTING REQUIREMENTS

In the event of an accidental release or an imminent accidental release of dangerous goods, the person who has possession of the dangerous goods must make an immediate report of the release or imminent accidental release. An immediate report is required when the quantities of dangerous goods released exceed the amounts set out in the following table [Section 8.1] or when there is an imminent accidental release. For more information on reporting requirements, request the CIC information bulletin entitled Reporting an Accidental Release of Dangerous Goods.

Class	Quantity
1	Any quantity that: a) could pose a danger to public safety or 50 Kg; b) is included in Class 1.1, 1.2, 1.3 or 1.5 and is (i) not subject to special provision 85 or 86 but exceeds 10 Kg net explosives quantity, or (ii) subject to special provision 85 or 86 and the number of articles exceeds 1000.
2	Any quantity that could pose a danger to public safety or any sustained release of 10 minutes or more
3	200 L
4	25 Kg
5.1	50 Kg or 50 L
5.2	1 Kg or 1 L
6.1	5 Kg or 5 L
6.2	Any quantity
7	Any quantity that could pose a danger to public safety; or an emission level greater than the level established in section 20 of the *Packaging and Transport of Nuclear Substances Regulations*.
8	5 Kg or 5 L
9	25 Kg or 25 L

In Alberta, the report must be made to:

- the local police,
- Alberta Transportation, Dangerous Goods and Rail Safety Branch at 1-800-272-9600,
- the person's employer,
- the consignor of the dangerous goods,
- the owner, lessee or charterer of the road vehicle involved, and

- CANUTEC at (613)996-6666 when the dangerous goods are in Class 1, Explosives or Class 6.2, Infectious Substances or there was an accidental release from a cylinder that suffered a catastrophic failure

The information that must be included in the immediate report is:

- the shipping name or UN number of the dangerous goods,
- the quantity of dangerous goods initially loaded into the container,
- the quantity of dangerous goods released,
- a description of the condition of the container and the details of the conditions of transport when the release occurred
- a description of the circumstances that led to a catastrophic failure of a cylinder, if involved in the release,
- the location of the accidental release,
- the number of injuries or deaths, if any occurred,
- an estimate of the number of people evacuated as a result of the accidental release

A report can also include other information not required by the regulations; for example, any cleanup arrangements, involvement of other emergency response agencies like the police, fire department, Alberta Environment and Parks, etc.

After submitting an immediate report, the employer of the person who had possession of the dangerous goods at the time of the accidental release must submit a 30-day Follow-up Report. The report must be made in writing to the Dangerous Goods Director General of Transport Canada [Section 8.3]. The 30-Day Report must have the following information:

- name, address and telephone number of the place of business of the person submitting the report,
- date, time and location of the accidental release,
- name and address of the place of business of the consignor,
- classification of the dangerous goods,
- the quantity loaded into the containers before the accidental release and the estimate quantity of dangerous goods released,
- a description of the means of containment involved and a description of the failure or damage including how the released occurred,
- if catastrophic failure of a cylinder occurred, the cylinder certification markings and a description of the failure,
- number of deaths and injuries resulting from the accidental release,
- an estimate of the number of people evacuated, if any, and
- if an ERAP was activated, the name of the person who responded.

6. EMERGENCY RESPONSE ASSISTANCE PLAN (ERAP)

An Emergency Response Assistance Plan (ERAP) is required in instances where dangerous goods are potentially very hazardous when transported in moderate or large quantities. If a large enough amount of these dangerous goods were released, the potential for harm to people and the environment would be great. For this reason, Part 7 of the TDG Regulations requires consignors and importers of dangerous goods to register an ERAP if necessary [Section 7.1].

An ERAP is required for the following circumstances:

- A quantity of dangerous goods having the same UN number in one means of containment. If the quantity of dangerous goods exceeds the ERAP limit, an ERAP is required regardless of the size of the means of containment;
- A quantity of one or more dangerous goods from one of the following classes that are in one or more means of containment [Section 7.1(3)]:
    - Class 1 Explosives
    - Class 3, Flammable Liquids with a subsidiary class of 6.1, Toxic Substances
    - Class 4, Flammable Solids
    - Class 5.2, Organic Peroxides, that are Type B or Type C
    - Class 6.1, Toxic Substances, Packing Group I

An ERAP is necessary whenever a quantity of dangerous goods that have the same UN number exceeds the ERAP limit if the dangerous goods have an index number greater than that listed in column 7 of Schedule 1 and

(a) if a solid, have a mass that is greater than the index number when that number is expressed in kilograms;
(b) if a liquid, have a volume that is greater than the index number when that number is expressed in litres;
(c) if a gas, including a gas in a liquefied form, that have the same UN number, that are contained in a more than one means of containment, each has a capacity greater than 225 L, either as a single unit or interconnected units through piping arrangement and are mounted permanently on the transport unit. The total capacity if all means of containment is greater than the index number. [Section 7.1(5)]

In many instances dangerous goods do not require an ERAP; however, consignors and importers of dangerous goods must make sure that the quantities of dangerous goods in a consignment do not exceed the ERAP quantity limits.

An ERAP is required if UN1202, UN1203 or UN1863 Dangerous Goods is being transported or imported, in a single train, rail tank cars, if

(a) The rail tank cars are interconnected in such a way that the loading or unloading of more than one rail tank car can be done from the first or last of those rail tank cars; and
(b) 17 or more of the rail tank cars are each filled to 70% or more of their capacity.

If you are not sure whether a consignment of dangerous goods requires an ERAP, you may call the Coordination and Information Centre at 1-800-272-9600. You can obtain an application to register an ERAP by calling CANUTEC at (613)992-4624.

7. GUIDE FOR DANGEROUS GOODS SHIPPERS

To determine the proper shipping name and/or UN Number, refer to Schedule 1 of the TDG Regulations, which lists regulated dangerous goods by UN Number, or Schedule 3 of the TDG Regulations, which lists regulated dangerous goods alphabetically by shipping name.

STEP 1 – Determine the proper shipping name

The shipper must determine the proper shipping name of the materials according to TDG Regulations, Schedule 1, Column 2.

STEP 2 – Determine the class (and subclass, if any)

Refer to TDG Regulations, Schedule 1, Column 3, and locate the classification and, if any, the subsidiary classification of the product.

STEP 3 – Select the UN Number

Refer to TDG Regulations, Schedule 1, Column 1 and select the UN Number.

STEP 4 – Determine the mode(s) of transport to ultimate destination

A. As a shipper, you must assure yourself that the shipment complies with various modal requirements.

B. The modal requirements may affect the following:

1. Packaging
2. Quantity per package
3. Markings
4. Shipping documentation

STEP 5 – Determine and select the proper packaging

A. Packaging requirements will vary according to modes of transportation.

B. Some exemptions for packaging may apply. For a full explanation of exemptions refer to Part 1 and Schedule 2 of the TDG Regulations. For example, Section 1.15 (150 kg Gross Mass) and Section 1.17 (Limited Quantities).

C. If packaged by a prior shipper, make sure the packaging is correct and in proper condition for transportation.

STEP 6 – Prepare the shipping document

A. The basic requirements for the shipping document include: Shipping name, class, UN number, total quantity, packing group, 24 hour emergency response telephone number, date, name and address of the shipper.

B. Make all entries on the shipping document legible using the information required and in proper order.

C. For additional requirements, see Part 3 of the TDG Regulations, or read Part 2 of this document.

D. A copy of the shipping document must be retained for 2 years by the consignor and carrier.

STEP 7 – Select the proper safety marks and apply as required

A. Refer to the TDG Regulations, Part 4, for required labels or placards.

B. For a small means of containment (capacity less than or equal to 450 litres), the shipping name and UN number should be printed on the package.

C. Unless the vehicle is already correctly placarded according to Part 4 of the TDG Regulations, the consignor must provide the required placards.

STEP 8 – Loading, blocking and bracing

If the shipper loads the freight container or transport vehicle, the shipper is responsible for the proper loading, blocking, and bracing of the materials in accordance with the requirements for mode of transport.

8. GUIDE FOR DANGEROUS GOODS CARRIERS

If the shipment is packaged and loaded by the shipper, it may be difficult for the carrier to examine it physically. Therefore, it is very important to carefully review the shipping documents. Always visually inspect the transport vehicle or freight container for leaks or potential problems.

STEP 1 – Determine Employee Qualifications

An employer is required to ensure employees who have any responsibility for handling or transporting of dangerous goods are thoroughly trained. The following suggestions will help to meet this requirement:

A. Identify all personnel who have dangerous goods handling or transportation responsibility.

B. Determine training needs. Training for dangerous goods includes the following criteria:

   a. classification, nature and characteristics of dangerous goods;

   b. packaging requirements;

   c. safety marking requirements;

   d. documentation requirements;

   e. special precaution requirements;

   f. reporting requirements;

   g. emergency action requirements;

   h. proper equipment use;

   i. safety equipment use.

C. Ensure that those needing training receive training specific to their duties.

D. Issue training certificates to the trained personnel. Specify the aspects of training received.

E. Maintain records of training for 2 years from the date of expiration of the certificate.

F. Review training whenever necessary. New training certificates must be issued to trained employees every 3 years. Old training certificates must be retained by the employer for two years after expiry.

STEP 2 – Determine condition of transport vehicle

A. Ensure that the cargo space is suitable for loading. It should be free of nails and other protruding sharp objects.

B. Ensure the type of vehicle is suitable for the material to be loaded. It must be in compliance with the Traffic Safety Act.

STEP 3 – Is the shipment acceptable for transport?

A. Determine if the shipping document is accurate and complete.

B. Determine the proper placards and UN numbers are displayed if required.

C. Determine that each package is properly marked and labeled as required.

D. Determine whether authorized packaging has been used and whether it is in proper condition for transportation.

E. The freight is adequately blocked and braced to prevent movement and damage in transit.

STEP 4 – Is the shipment to be interlined?

A. An interlined shipment is one in which the mode of transport will change before the shipment reaches its destination; e.g., from road transport to air transport. Properly prepare the material so the secondary carrier will accept it from you.

B. Changes in the mode of transport may affect the following requirements

1. packaging;
2. quantity per packaging;
3. marking;
4. labeling;
5. shipping documentation.

STEP 5 – Prior to loading the shipment

A. Determine documentation matches the shipment.

B. Check for damaged or leaking packages.

C. Proper placards and UN numbers are displayed, if required.

D. Ensure the required documentation is provided to the driver/pilot/conductor/captain.

E. Avoid loading toxic substances with foodstuffs.

STEP 6 – Incident Reports

The person in charge of the dangerous goods at the time of the incident is responsible to report a dangerous occurrence as defined in Part 8, section 8.1 of the TDG Regulations.

Dangerous Goods Shipping Document for Road Transport on Canadian shipments

CONSIGNOR **Name:** **Address:**	**DESTINATION (City-Town)** **Name:** **Address:**
Name of Carrier **Prepaid** ☐ **Collect** ☐	**Transport Unit Number**
Point of Origin	**Shipping Date** / **Shipper's No.**

REGULATED DANGEROUS GOODS

UN Number	Shipping Name	Primary Class	Subsidiary Class	Packing Group	Quantity	Packages Requiring Labels

24-Hour Number: _____

ERAP Reference _____ **and Telephone Number** _____

Consignor's Certification

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, are properly classified and packaged, have dangerous goods safety marks properly affixed or displayed on them, and are in all respects in proper condition for transport according to the Transportation of Dangerous Goods Regulations.

Name of Consignor: _____

Special Instructions

NON-REGULATED GOODS

Packages	Description of Articles	Weight

Received in apparent good order **Consignee's Signature**	**Shipper's Signature**
Received in Apparent Good Order **Driver's Signature**	**Driver's No.**

Please note that this sample shipping document contains some information that is not required in the TDG Regulations. The additional information reflects current industry practices.