



# Dangerous Goods and Rail Safety

**A Technical Publication from  
ALBERTA EDGE (ENVIRONMENTAL AND  
DANGEROUS GOODS EMERGENCIES)**

## **Dangerous Goods and the Agricultural Industry**

February 2018

*Alberta* 

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. Alberta EDGE (Environmental and Dangerous Goods Emergencies) of Alberta Transportation can provide accurate information regarding the Regulations 24 hours a day.

**Alberta EDGE (Environmental and Dangerous Goods Emergencies)**

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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 Regulatory Compliance Officer responding to your call or contact the Manager of Alberta EDGE at 780-427-8660. *Legal Authority: Dangerous Goods Transportation and Handling Act, Section 13(1).***

## **INTRODUCTION**

The Dangerous Goods and Rail Safety Section of Alberta Transportation is responsible for administering the Transportation of Dangerous Goods (TDG) legislation for dangerous goods transport by road in Alberta. Alberta EDGE can be reached 24/7 at (780) 422-9600 or toll free 1-800-272-9600, and is a valuable source of information on TDG Regulations.

This bulletin provides an overview of the TDG legislation and outlines procedures required to comply with the legislation for some common agricultural products.

## **CLASSIFICATION (Part 2)**

Dangerous goods fall into the following nine classes:

- Class 1 - Explosives
- Class 2 - Gases
- Class 3 - Flammable liquids
- Class 4 - Flammable Solids, Substances Liable to Spontaneous Combustion, Substances That on Contact with Water Emit Flammable Gases (Water-reactive Substances)
- Class 5 - Oxidizing Substances and Organic Peroxides
- Class 6 - Toxic and Infectious Substances
- Class 7 - Radioactive Materials
- Class 8 - Corrosives
- Class 9 - Miscellaneous Products, Substances or Organisms

Some of these classes are further divided depending upon the nature or degree of hazard they present. For example, a flammable gas such as propane is a Class 2.1 (Flammable Gases).

Classifying a product is the responsibility of the manufacturer or importer of the product. Having classified their product, the manufacturer must also assign it a shipping name, a UN number and a packing group. Those working in the agricultural industry should ask their supplier if a product is classified as a dangerous good. If the product is a dangerous good, then the TDG Regulations must be followed.

## **DOCUMENTATION (Part 3)**

A paper shipping document (not electronic) must accompany all dangerous goods shipments unless an exemption applies [Section 3.2(2)]. The supplier (consignor) must provide the transporter (carrier) with a shipping document for the dangerous goods.

If a shipping document is needed, specific information must be shown on the document. The following is a list of the minimum information:

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 (Class X)	Always	3.5(1)(c)(iii)
f. Compatibility group (Explosives only)	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 <sup>1, 2</sup>	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 <sup>2</sup>	For dangerous goods in small means of containment requiring safety labels	3.5(1)(e)
The words "24-Hour Number" followed by a telephone number where the consignor can easily be reached <sup>3</sup>	Always	3.5(1)(f)

Consignor's Certification <sup>4</sup>	Always	3.6.1
Emergency Response Assistance Plan (ERAP) number and telephone number to activate it	If Required	3.6(1)
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)

**Note:**

1. If the dangerous goods fill less than 10% of the container, the words "Residue – Last Contained", before or after the shipping name of the dangerous goods, can be used to describe the quantity. This does not apply to Class 2 gases in small means of containment and Class 7 radioactive substances [Section 3.5(4)].
2. **Multiple Deliveries:** If the quantity of dangerous goods or the number of small container changes during transport, you 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 for someone who is not the consignor, but who can give technical information on the shipment (such as the Canadian Transport Emergency Centre – CANUTEC) can also be used. The consignor must receive permission, in writing, from CANUTEC to use their phone number. 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. If the organization or agency is located outside Canada, the telephone number must include the country code and city code if required. [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].

During transport, the dangerous goods shipping document must be within reach of the driver. If the driver steps away from the vehicle during transport, the shipping document must be clearly visible to anyone entering the vehicle from the driver's side. If the dangerous goods are left in an unsupervised area, the shipping document must be placed in a waterproof container securely attached to or near the means of containment holding the dangerous goods [Sections 3.7 and 3.10].

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

## SAFETY MARKS (Part 4)

### Small Means of Containment (450 L or less)

Safety marks are the placards, labels and markings required by the TDG Regulations. The Regulations require small containers to display the appropriate class label for that dangerous good. A small container must display dangerous goods label(s) for the primary and subsidiary hazard classes, as well as the shipping name and UN number of the product [Sections 4.10 to 4.12]. The label must be at least 100 mm on each side. If the container is too small or has an irregular shape, the label can be reduced in size, but must be at least 30 mm on each side [Section 4.7(2)].

<b>Example of Safety Marks for a Small Means of Containment</b>	
In this case the product is PROPANE, Class 2.1, UN1978	
	
	
Class 2.1 label is red with a small white flame	

### Large Means of Containment (Over 450 L)

Placards representing the primary and subsidiary class of the dangerous goods being transported must be placed on all four sides of a large container or transport unit.

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

The primary class placard must be displayed if the dangerous goods are in a large container. If two or more dangerous goods have different UN numbers but are in the same Class, only one placard displaying the class is needed per side of the vehicle.

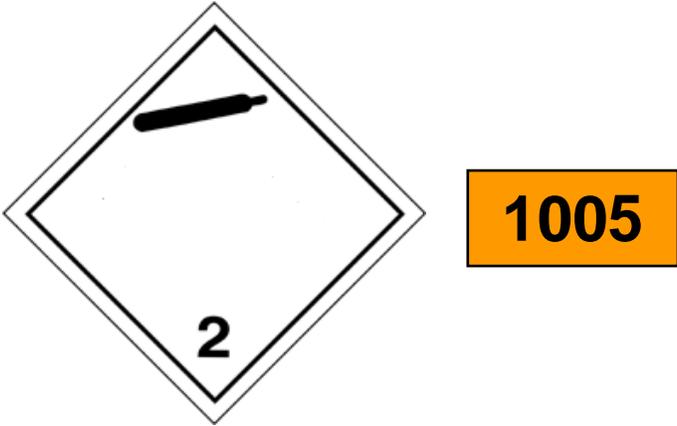
A UN number must be displayed with the placard if the dangerous goods are:

- in a quantity or concentration for which an ERAP is required; or
- a liquid or a gas in direct contact with the large container (i.e. In a tank); [Section 4.15.2]

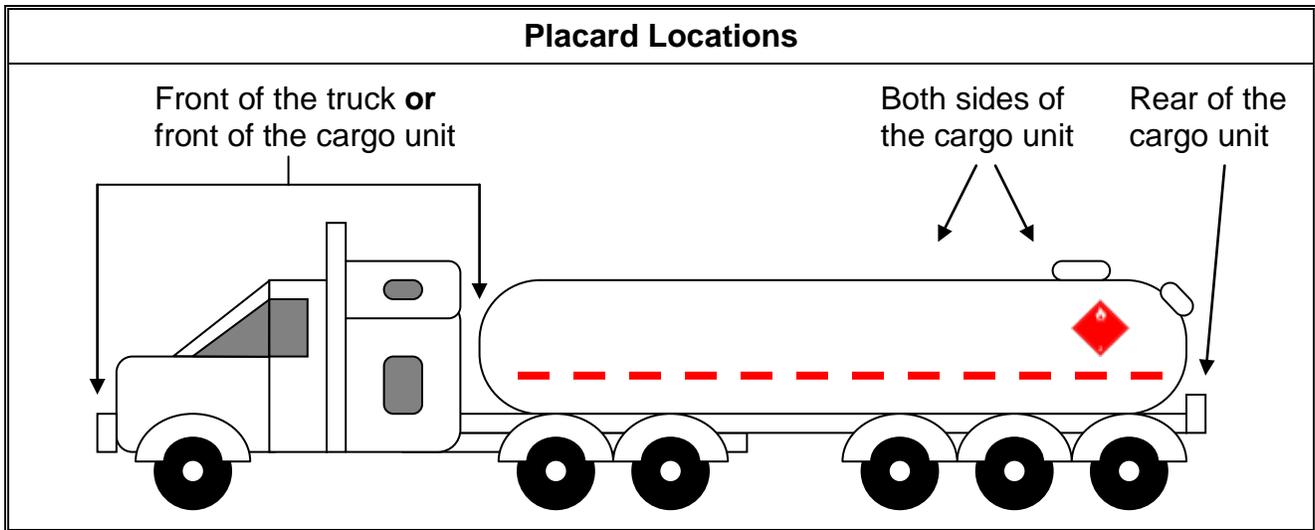
If a UN number is required, it must be displayed on the placard or on an orange panel next to the placard. The letters “UN” are always omitted [Section 4.8(2)].

Subsidiary class placards are required if:

- the subsidiary class is:
  - Class 1 (Explosives)
  - Class 4.3 (Water Reactive Substances)
  - Class 6.1 (Toxic Substances), Packing Group I, Inhalation Toxicity only
- dangerous goods are UN2977 (Radioactive Material, Uranium Hexafluoride, Fissile)
- dangerous goods are UN2978 (Radioactive Material, Uranium Hexafluoride) [Section 4.15.1]

<b>Example of Safety Marks for a Large Means of Containment</b> In this case the product is ANHYDROUS AMMONIA, Class 2.3(8), UN1005	
	
UN1005 placards are specifically for this product only; they may not be used for other Class 2.3 products. If this is used, then the tank must display the words “ Anhydrous Ammonia, Inhibition Hazard” on a contrasting background in letters at least 6 mm wide and 50 mm high [Section 4.18.2]	

The placards must be displayed on each side and each end of the container (4 placards total). The placards may be displayed on the frame of the means of transport or a frame directly attached to the large container. The placard may also be placed at the front of the truck instead of the front of a cargo unit attached to the truck [Section 4.15(3)].



**DANGER PLACARD**

A DANGER placard may be used if a mixed load of small containers (requiring more than one placard) is inside a large container (such as a cube van or enclosed trailer).

A DANGER placard may **NOT** be used if:

- the total mass of all the dangerous goods for one class is less than 1000 kg
- An ERAP is not required
- Dangerous goods are in:
  - Class 1 (Explosives);
  - Class 2.3 (Toxic Gases)
  - Class 4.3 (Water-Reactive Substances);
  - Class 5.2 (Organic Peroxides, Type B, Liquid or Solid, that require an emergency control temperature;
  - Class 6.1 (Toxic Substances – Inhalation Toxicity); or
  - Class 7 (Radioactive Materials).

## **MEANS OF CONTAINMENT (PART 5)**

A person must not accept or transport dangerous goods if they are not properly packaged. Containers used for transport must be in good condition as well as built and maintained to a specific Safety Standard, so as not to cause a spill while being transported. If they are built to a Safety Standard they will have the UN symbol (see below) embossed or on a sticker on the container.



Cylinders (containing Class 2 gases) are built to a Safety Standard.

## **TRAINING (Part 6)**

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

A person is adequately trained if they have sound knowledge of the topics listed below that relate directly to their duties [Section 6.2]:

- classification criteria and test methods (Part 2, Classification);
- shipping names;
- shipping documentation (Part 3, Documentation);
- safety mark requirements (Part 4 Dangerous Goods Safety Marks);
- certification safety marks, safety requirements and safety standards, (Part 5, Means of Containments);
- ERAP requirements (Part 7, ERAP);
- reporting requirements (Part 8);
- safe handling and transportation practices including characteristics of the dangerous goods being handled;
- use of Schedule 1, 2, and 3;
- proper use of equipment to handle or transport the dangerous goods;
- emergency measures to take in case of releases.

An employer can issue a training certificate when they have reasonable grounds to believe an employee possesses adequate training. The training certificate may be in paper or electronic format. A driver must be able to produce their TDG training certificate upon the

request of a Dangerous Goods Inspector or other Officer (the driver must carry their TDG training certificate at all times while transporting dangerous goods) [Section 6.8]. The training certificate must include the following information [Section 6.3]:

- the name and address (including postal code) of the employer;
- the name of the employee;
- the date the training certificate expires, preceded by the words “Expires on”. A training certificate expires 3 years after being issued;
- 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.

Self-employed people can issue training certificates for themselves. The employer must keep a record of the training the employee has received and a copy of their training certificate for two years after the date of expiration [Section 6.6].

## **EMERGENCY RESPONSE ASSISTANCE PLAN (Part 7)**

An Emergency Response Assistance Plan (ERAP) is required in instances where very hazardous dangerous goods are transported in quantities which may pose a threat to public safety. For this reason the TDG Regulations requires consignors and importers of dangerous goods to have an approved ERAP.

An ERAP is required if the amount of dangerous goods contained in a single container exceeds the limit described in Column 7 of Schedule 1 of the TDG Regulations [Section 7.1]. Consignors and importers of dangerous goods must ensure that quantities of dangerous goods over the ERAP quantity limit are accompanied by an ERAP.

If you are not sure whether a consignment of dangerous goods requires an ERAP, you may call Alberta EDGE (1-800-272-9600). You can obtain information on ERAPs at this web site <http://www.tc.gc.ca/eng/tdg/erap-menu-72.htm>.

## **RELEASE OR ANTICIPATED RELEASE REPORT REQUIREMENT (PART 8)**

The person in possession of dangerous goods at the time of a release or anticipated release must make a verbal Emergency Report to the local authorities as soon as possible. An Emergency Report is required when the quantity of dangerous goods that was or may have been released exceeds the amount set out in the following table [Section 8.2]. More information on reporting requirements can be found in Alberta EDGE's information bulletin entitled Emergency, Release or Anticipated Release Report Requirements (<http://www.transportation.alberta.ca/757.htm>).

Class	Packing Group or Category	Quantity
1	II	Any quantity
2	Not Applicable	Any quantity
3, 4, 5, 6.1 or 8	I or II	Any quantity
3, 4, 5, 6.1 or 8	III	30 L or 30 kg
6.2	A or B	Any quantity
7	Not Applicable	A level of ionizing radiation greater than the level established in Section 39 of the "Packing and Transport of Nuclear Substances Regulations, 2015"
9	II or III or without packing group	30 L or 30 kg

A local authority is any organization which may be responsible for emergency response at the location of the release or anticipated release. In Alberta, these include:

- the local police or RCMP, and
- Alberta EDGE

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The person making the Emergency Report must also make a verbal Release or Anticipated Release Report to CANUTEC (1-888-226-8832 or 613-996-6666) if [Section 8.4]:

- a fatality occurred;
- there were any injuries caused by exposure to the dangerous goods which required medical treatment by a health care provider;

- an evacuation occurred or people sheltered in place;
- a loading or unloading facility, road, main rail line or main waterway was closed;
- the container failed or became damaged enough to compromise its integrity (this includes any damage or failure to hoses and gaskets); or
- the centre sill or stub sill of a tank car was broken or there is a crack in the metal equal to or greater than 15 cm (6 in.)

If a verbal Release or Anticipated Release report is required to CANUTEC, the person must also report the incident to the consignor of the dangerous goods.

The information that must be included in the Emergency or Release or Anticipated Release Report is:

- the name and contact information of the person making the report;
- the date, time and location of the event;
- the mode of transport used (including a description of the container);
- the shipping name or UN number of the dangerous goods;
- the quantity of dangerous goods initially in the container;
- the quantity of dangerous goods released (if applicable);
- the type of incident leading to the event (for example: collision, roll-over, derailment, overfill, fire, explosion or load-shift);
- the name and geographic location of any road, main railway or main waterway that was closed (if applicable);
- the number of people evacuated or sheltered in place (if applicable); and
- the number of fatalities or injures (if applicable).

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

After submitting a verbal Release or Anticipated Release report to CANUTEC, the person or employer of the person who made the report must submit a 30-day follow-up written report to the Dangerous Goods Directorate of Transport Canada [Section 8.8]. In addition to the information listed above, the 30-Day Follow-up Report must include:

- names and contact information of the consignor, carrier and consignee;
- classification of the dangerous goods (Including UN number, shipping name, class and packing group);
- a description of the container involved and a description of the failure or damage including how the event occurred;
- information about the conditions leading to the event;
- information on any fire or explosion (if applicable);
- The duration of any facility, road, railway or waterway closure;
- the ERAP reference number (if applicable);
- the date the initial verbal report was made; and
- an estimate of the financial loss as a result of the release/anticipated release and any associated, emergency response or remediation.

A 30 day report must be kept for two years after the day on which it was made. The report must be available to an inspector within 15 days of a written request.

## **LOSS OR THEFT OF DANGEROUS GOODS (PART 8.16)**

A person is required to report the loss or theft of dangerous goods as soon as possible. Reportable quantities of some dangerous goods which may have agricultural application are as follows:

- Theft of any quantity:
  - UN1357, Urea Nitrate (fertilizer);
  - UN1485, Potassium Chlorate (pesticide);
  - UN1486, Potassium Nitrate (fertilizer);
  - UN1495, Sodium Chlorate (herbicide);
  - UN1498, Sodium Nitrate (fertilizer);
  - UN1499, Sodium nitrate and Potassium nitrate mix; or
  - Dangerous goods with a primary or secondary class of:
    - § Class 1.1, 1.2 or 1.3 (explosives);
    - § Class 2.3 (Toxic Gases);
    - § Class 5.2, Type B (liquid or solid, temperature controlled Organic Peroxides);
    - § Class 6.1 Packing Group I (Toxic Substances);
    - § Class 6.2 (Infectious Substances); or
    - § Class 7 (Radioactive Materials).
- Theft of 450 kg or more:
  - Class 1.4 (except 1.4S), 1.5 or 1.6 (Explosives);
  - Class 2.1 (Flammable Gases);
  - Class 3 (Flammable Liquids);
  - Class 3 or 4.1 (Desensitized Explosives);
  - Class 4.2 Packing Group I or II (Substances Liable to Spontaneous Combustion, Pyrophoric Solids or Liquids);
  - Class 4.3 Packing Group I or II (Water-Reactive Substances);
  - Class 5.1 Packing Group I or II (Oxidizing Substances); or
  - Class 8 Packing Group I or II (Corrosives)

For the complete list of reportable quantities, please see Part 8.16 of the TDG Regulations. Reports of the loss or theft of dangerous goods must be made to:

- CANTUEC (1-888-226-8832 or 613-996-6666);
- For Class 1 (Explosives) a Natural Resources Canada Inspector (613-995-5555); or
- For Class 7 (Radioactive Materials) the Canadian Nuclear Safety Commission.

Information which must be included in the loss or theft report:

- Name and contact information of the person making the report;
- Names and contact information of the consignor, consignee and the carrier;
- If the dangerous goods were lost or stolen;
- Shipping name or UN number of the dangerous goods;
- Quantity of the lost or stolen dangerous goods;
- A description of the container of the dangerous goods; and
- Approximate date, time and location of the loss or theft.

## **COMMON DANGEROUS GOODS ENCOUNTERED IN AGRICULTURE**

### **PESTICIDES**

Regulated pesticides are often classified as Class 6.1 (poisonous substances) due to their toxicity. The safety mark for products in Class 6.1 is a white diamond with a skull-and-crossbones and numeral "6" in the toe of the diamond.



Some regulated Pesticides may also be classified as Class 3 flammable liquids because of the solvents used as carriers for the active ingredients. In this case the safety mark would be a red diamond with a white flame in it. There would be a numeral "3" in the toe of the diamond.



Check with your bulk dealer or manufacturer for the classification of any product you use. The classification can be different for both the full strength and diluted products. If transporting the product in diluted form it may not be regulated under the TDG Regulations. Check with your bulk dealer or the manufacturer to determine if the classification changes under certain conditions.

#### **ANHYDROUS AMMONIA (UN1005) MARKS [Section 4.18.2]**

Anhydrous ammonia is classified as UN1005, ANHYDROUS AMMONIA, Class 2.3(8) (Primary class – Toxic Gas, Subsidiary Class – Corrosive). The safety mark for anhydrous ammonia is a white diamond on point, with a black cylinder silhouette at the top and the number 2 in the bottom point. The UN number (1005) is included in the middle of the placard. The class 2.3 placard (white diamond on point with skull and crossbones in the top point, and the number 2 in the bottom point) may also be used provided the UN number is on the placard. If the anhydrous ammonia placard is used, the container must also have the words “Anhydrous Ammonia, Inhalation Hazard” on at least two sides. The words must be at least 6mm wide and 50 mm high.



**ANHYDROUS AMMONIA**



**CLASS 2.3**

Anhydrous Ammonia requires an emergency response assistance plan (ERAP) if it is transported in volumes over 3000L.

## EXEMPTIONS

The following exemptions to the TDG Regulations may be of interest to those in the agricultural industry.

### **150 Gross Mass Exemption** [Section 1.15]

Shipping document, safety marks, standardized container, TDG training and release reporting requirements do not apply to a dangerous goods load if:

- Class 2 Gases are in small cylinders (less than 450L),
- other Classes of dangerous goods are in containers less than 30 kg, and will not spill during transport;
- the total mass of all dangerous goods on the transportation unit is less than or equal to 150 kg;
- the dangerous goods are in a quantity available to the general public and are transported
  - by a user or purchaser of the dangerous goods, or
  - by a retailer to or from a user or purchaser of the dangerous goods.

This exemption cannot be used if the dangerous goods:

- require an ERAP;
- require a control or emergency temperature;
- are explosives (Class 1), except for
  - UN0012, UN0014, UN0044, UN0055, UN0105, UN0131, UN0161, UN0173, UN0186, UN0191, UN0197, UN0276, UN0312, UN0323, UN0335 if classified as a consumer firework, UN0336, UN0337, UN0351, UN0373, UN0378, UN0404, UN0405, UN0431, UN0432, UN0454, UN0499, UN0501, UN0503, UN0505, UN0506, UN0507, UN0509, and UN0510;
- are included in:
  - § Class 2.1, Flammable Gases containers larger than 46 L;
  - § Class 2.3, Toxic Gases;
  - § Class 4, Flammable Solids Packing Group I;
  - § Class 5.2, Organic Peroxides, not permitted as Limited Quantities;
  - § liquids in Class 6.1, Toxic Substances, and Packing Group I;
  - § Class 6.2, Infectious Substances; or
  - § Class 7 Radioactive Materials, and are required to be licensed by the Canadian Nuclear Safety Commission.

### **500 Kg Gross Mass Exemption** [Section 1.16]

Full shipping document, safety mark, standard container, training and release reporting requirements do not apply to the transportation of dangerous goods if:

- Class 2 Gases are in cylinders;
- other classes of dangerous goods are in containers less than 30 kg that will not spill during transport;
- the gross mass of all dangerous goods is less than 500 kg;
- the dangerous goods are accompanied by a modified shipping document that is located within easy reach of the driver. The shipping document must include the following information in the following order:
  - the primary class of the dangerous goods in each container following the word “Class”,
  - the total number of containers which require a dangerous goods safety mark following the words “number of means of containment” and

*For example, Class 3, number of means of containment, 10*

- each container has displayed on a side which it is not intended to rest on
  - the required dangerous goods safety marks; or
  - if either the “Pest Control Products Act” or the “Hazardous Products Act” are applicable, the marks required by these Acts must be visible

This exemption requires that the person transporting the dangerous goods has dangerous goods training.

This exemption cannot be used if the dangerous goods:

- require an ERAP;
- require a control or emergency temperature;
- are included in Class 1, Explosives, except for Class 1.4S or UN0191, UN0197, UN0276, UN0312, UN0336, UN0403, UN0431, UN0453 and UN0493;
- are included in:
  - Class 2.1, Flammable Gases in a cylinder larger than 46 L;
  - Class 2.3, Toxic Gases;
  - Class 4, Flammable Solids, Packing Group I;
  - Class 5.2, Organic Peroxides, that are over the Limited Quantities limit;
  - Class 6.1 (liquids), Toxic Substances, Packing Group I;
  - Class 6.2, Infectious Substances; or
  - Class 7, Radioactive Materials, and are required to be licensed by the Canadian Nuclear Safety Commission.

### **Limited Quantities Exemption [Section 1.17]**

A quantity of dangerous goods, other than explosives, is a limited quantity if

- they are in containers which will not spill during transport;

- each outer container is less than 30 kg; and
- each inner container has a quantity less than the number shown in column 6(a) of Schedule 1 (in kg for solids and litres for liquids and gases),

Limited quantities of dangerous goods are exempt from documentation, safety marks, standardized container, training, ERAP and release reporting requirements if each container is legibly and durably marked on a side which will be visible during transport, with one of the marks illustrated below:

When a limited quantity of dangerous goods is in a container that is inside another container, the inner container does not need to be marked if

- the gross mass of the outer container is less than 30 kg;
- the outer container is not intended to be opened during transport; and
- the outer container is legibly and visibly marked, on a contrasting background, with the mark illustrated below.

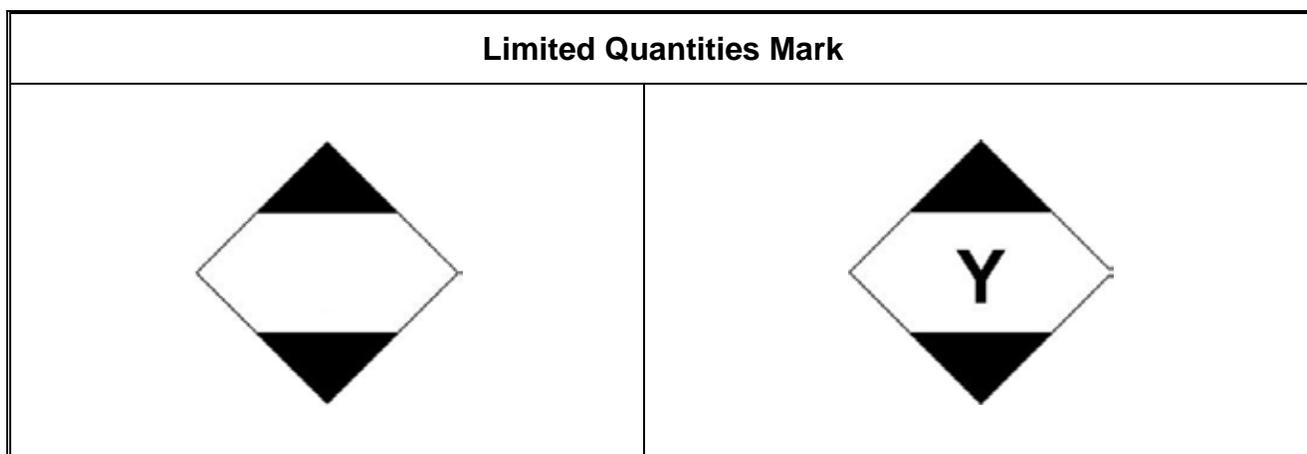
If the limited quantity of dangerous goods is in an overpack, the following information must be displayed on the overpack unless the marks on the small containers are visible through the overpack:

- the word "Overpack"; and
- the mark illustrated below, legibly and visibly marked on a contrasting background.

The line forming the square on point must be at least 2 mm wide. Each side of the mark must be at least 100 mm long. The letter "Y" may be displayed in the centre of the mark if the limited quantity is in compliance with the ICAO Technical Instructions. The size may be reduced to 50 mm, provided that the mark remains clearly visible, if regular labels will not fit on the package.

Until December 31, 2020, instead of being marked as above, a container may have displayed on it

- the words "Limited Quantity";
- the abbreviation "Ltd. Qty.";
- the words "Consumer Commodity"; or
- the UN number of each limited quantity of dangerous goods preceded by the letters "UN", placed within a square on point.



**Agriculture: 1500 kg Gross Mass Farm Vehicle Exemption [Section 1.21]**

Shipping documents, safety marks, standardized containers and TDG training are not required if:

- Class 2 gases are in cylinders;
- The dangerous goods are in containers which will not spill during transport
- The vehicle used for transport is a licensed farm vehicle;
- The dangerous goods are transported solely on land and the distance on public roads is less than or equal to 100 km;
- the gross mass of all dangerous goods on the vehicle is 1500 kg or less;
- the dangerous goods are used by a farmer for farming purposes; and
- the dangerous goods do not include:
  - Class 1, Explosives (except for Class 1.4S),
  - Class 2.1, Flammable gases cylinders over 46L,
  - Class 2.3, Toxic Gases,
  - Class 6.2, Infectious Substances, or
  - Class 7, Radioactive Materials.

If an ERAP is required, the dangerous goods must be accompanied by a shipping document.

**Agriculture: 3000 kg Gross Mass Farm Retail Exemption [Section 1.22]**

Shipping documents, safety marks, and standardized containers are not required if:

- the dangerous goods are transported solely on land between a retail place of purchase and the destination for a distance on public roads that is less than 100 km;
- Class 2, Gases, are in cylinders;
- the dangerous goods are in containers which will not spill during transport;
- the gross mass of all dangerous goods on the vehicle is less than 3000 kg;
- the dangerous goods will be used or have been used by a farmer for farming purposes; and

- the dangerous goods do not include:
  - Class 1, Explosives (except Class 1.4S),
  - Class 2.1, Flammable Gases, in cylinders over 46 L,
  - Class 2.3, Toxic Gases,
  - Class 6.2, Infectious Substances, or
  - Class 7, Radioactive Materials.

You will need TDG training to use this exemption. If an ERAP is required, a TDG shipping document will be required.

#### **Agriculture: Pesticide Exemption [Section 1.23]**

This section exempts you from documentation, UN number requirements and TDG training if the pesticides are transported:

- for a distance solely on land less than or equal to 100 km;
- in a container that has a capacity of 6000 L or less and is used to prepare the pesticides for application; and
- only one large container is in transport on the road vehicle.

Placards must be displayed on all four sides of the container. If an ERAP is required for the product being transported, the dangerous goods must be accompanied by a shipping document.

#### **Agriculture: Anhydrous Ammonia Exemption [Section 1.24]**

When transporting anhydrous ammonia by road in a field application tank (e.g., a Nurse Tank) with a capacity of 10,000 L or less for a distance on public roads less than 100 km then a shipping document and an ERAP are not required. Safety marks for the tank and TDG training are still required.

#### **Class 2, Gases, in Small Means of Containment Exemption [Section 1.32.3]**

Several gases used for welding and related purposes are exempt from documentation and training requirements of the TDG Regulations if:

- the gross mass of dangerous goods is less than or equal to 500 kg;
- the dangerous goods are contained in cylinders;
- the load is no more than 5 cylinders; and
- the labels are visible from the outside of the vehicle or displayed on the vehicle if the cylinders cannot be seen from outside the vehicle.

This exemption applies only to:

- UN 1001, ACETYLENE, DISSOLVED;
- UN 1002, AIR, COMPRESSED;
- UN 1006, ARGON, COMPRESSED;
- UN 1013, CARBON DIOXIDE;

- UN 1060, METHYLACETYLENE AND PROPADIENE MIXTURE, STABILIZED;
- UN 1066, NITROGEN, COMPRESSED;
- UN 1072, OXYGEN, COMPRESSED; or
- UN 1978, PROPANE

### **Class 3, Flammable Liquids: General Exemption [Section 1.33]**

Shipping documents, safety marks, standardized containers, and training are not required to transport Class 3, Flammable Liquids if they:

- have no subsidiary class;
- have a flash point above 37.8 °C and are Packing Group III; and
- are in a small containers which will not spill during transport.

This exemption is applicable to diesel but not to gasoline.

### **UN1202, DIESEL FUEL, or UN1203, GASOLINE, Exemption [Section 1.35]**

Shipping documents, UN numbers and training are not required when transporting gasoline (UN1203) or diesel (UN1202) by road if:

- the total capacity of all the containers is less than or equal to 2000 L;
- each of the containers displays the label or placard required;
- at least one label or placard on each container is visible from outside the vehicle during transport; and
- the container is visible from outside the vehicle during transport.

For example: a slip tank with a capacity between 450 L and 2000 L only requires one visible Class 3 placard secured to the tank.

Small containers of gasoline need to display the proper label (Class 3). Small containers of diesel can follow the exemption listed above (Class 3, Flammable Liquids: General Exemption [Section 1.33]).

### **Ammonium Nitrate Fertilizer Solutions or Mixtures [Schedule 2, Special Provision 37]**

When transporting ammonium nitrate or ammonium nitrate fertilizer or mixture by road, shipping document, safety mark, or TDG training requirements do not apply if:

- the fertilizer was purchased by retail sale and is transported between the place of purchase, the place of use, or the purchaser's residence;
- the quantity of fertilizer must be less than or equal to 13.6 tonnes; and
- the shipment is accompanied by a record sheet that includes the shipping name, the UN number and the quantity of fertilizer mixture or solution.

This special provision applies to UN1942, and UN2067.

### **Miscellaneous Special Cases [Section 1.46]**

The TDG Regulations do not apply to:

- Ammoniating fertilizer solutions with an absolute pressure of ammonia less than or equal to 276 kPa at 41 °C;
- Fish meal that is acidified and is wetted with 40% or more water, by mass;
- Solvent extracted soya bean meal free of flammable solvent and containing 1.5% or less oil, by mass, and 11% or less moisture, by mass; or
- Wood or wood products treated with wood preservatives.

The dealer will know which products sold fit into these categories.

### **Spraying by Aircraft [Section 12.12]**

When transporting dangerous goods by aircraft for the purposes of aerial agricultural work:

- the dangerous goods must be in a container that is an integral part of the aircraft or is attached in accordance with the Certificate of Airworthiness issued under the “Canadian Aviation Regulations”;
- the air carrier must ensure the person who loads and secures the dangerous goods on board is trained or works under the direct supervision of a person who is trained in accordance with the TDG Regulations and Chapter 4, Training, of Part 1, General, of the ICAO Technical Instructions;
- the air carrier must comply with the release reporting requirements of the TDG Regulations;
- if the pilot-in-command does not load or directly supervise the loading of the dangerous goods, the person who loads and secures the dangerous goods must give the pilot-in-command a written document with the shipping name, UN Number, Class and gross mass of each of the dangerous goods on board;
- smoking is prohibited on board the aircraft;
- each area or compartment of the aircraft containing dangerous goods must be ventilated to prevent accumulation of vapour;
- when an in-flight emergency occurs and circumstances permit, the pilot-in-command must comply with Section 4.3, Information by Pilot-in-command in Case of In-flight Emergency, of Chapter 4, Provision of Information, of Part 7, Operator’s Responsibilities, of the ICAO Technical Instructions;
- the person who loads and secures or directly supervises the loading and securing of dangerous goods on board the aircraft must comply with Section 3.1, Inspection for damage or leakage, of Chapter 3, Inspection and decontamination, of Part 7, Operator’s Responsibilities, of the ICAO Technical Instructions; and
- the person who loads the aircraft must segregate the containers loaded with dangerous goods that could react dangerously with one another in case of an accidental release in accordance with Table 7-1 entitled “Segregation between packages”, of Chapter 2, Storage and loading, of Part 7, Operator’s Responsibilities, of the ICAO Technical Instructions.

## CLASSIFICATION OF COMMON CHEMICALS

<b>Table 1: Non-Regulated Fertilizers</b>			
<b>Common Name</b>	<b>Fertilizer Type</b>	<b>UN #</b>	<b>Class</b>
<b>21-0-0</b>	Ammonium Sulfate		Not Regulated
<b>16-20-0</b>	Ammonium Phosphate Sulfate		Not Regulated
<b>11-51-0</b>	Mono-Ammonium Phosphate		Not Regulated
<b>18-46-0</b>	Di-Ammonium Phosphate		Not Regulated
<b>46-0-0</b>	Urea		Not Regulated
<b>34-17-0</b>	Urea Ammonium Phosphate		Not Regulated
<b>27-27-0</b>	Urea Ammonium Phosphate		Not Regulated
<b>19-39-0</b>	Urea Ammonium Phosphate		Not Regulated
<b>0-0-62</b>	Potassium Chloride (Potash)		Not Regulated
<b>17-17-17</b>	Ammonium Nitrate Phosphate Potash		Not Regulated
<b>28-0-0</b>	Urea/Ammonium Nitrate Solution		Not Regulated
<b>18-35-0</b>	Ammonium Nitrate Phosphate		Not Regulated

<b>Table 2: Common Chemicals (Regulated)</b>				
<b>Common Name</b>	<b>Shipping Name</b>	<b>UN #</b>	<b>Class</b>	<b>Packing Group</b>
<b>Gasoline</b>	GASOLINE	UN1203	3	II
<b>Diesel Fuel</b>	DIESEL FUEL	UN1202	3	III
<b>Ammonia</b>	ANHYDROUS AMMONIA	UN1005	2.3 (8)	
<b>Propane</b>	PROPANE	UN1978	2.1	
<b>LPG</b>	LIQUEFIED PETROLEUM GASES	UN1075	2.1	
<b>Acetylene</b>	ACETYLENE, DISSOLVED	UN1001	2.1	
<b>Oxygen</b>	OXYGEN, COMPRESSED	UN1072	2.2 (5.1)	
<b>34-0-0</b>	AMMONIUM NITRATE FERTILIZERS*	UN2067	5.1	III
<b>26-13-0</b>	AMMONIUM NITRATE FERTILIZERS	UN2071	9	III
<b>23-24-0</b>	AMMONIUM NITRATE FERTILIZERS	UN2071	9	III

\* Some manufacturers may classify their 34-0-0 as Ammonium nitrate UN1942.

**DANGEROUS GOODS SHIPPING DOCUMENT FOR ROAD TRANSPORT**

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.

<b>CONSIGNOR</b>			<b>DESTINATION (City-Town)</b>			
Name:			Name:			
Address:			Address:			
Name of Carrier		Prepaid <input type="checkbox"/>	Collect <input type="checkbox"/>	Transport Unit Number		
Point of Origin			Shipping Date		Shipper's No.	
<b>REGULATED DANGEROUS GOODS</b>						
UN Number	Shipping Name	Primary Class	Subsidiary Class	Packing Group	Quantity	Packages Requiring Labels
24-Hour Number: _____						
ERAP Reference _____ and Telephone Number _____						
<b>Consignor's Certification</b>						
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: _____						
<b>Special Instructions</b>						
<b>NON-REGULATED GOODS</b>						
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.		