Transportation of Dangerous Goods (TDG) – Overview Fact Sheets



WHAT IS THE PURPOSE OF THE TDG ACT AND REGULATIONS?

The purpose of the Transportation of Dangerous Goods (TDG) Act and Regulations is to promote public safety when dangerous goods are being handled, offered for transport or transported by road, rail, air, or water (marine). TDG also establishes safety requirements.

Note: The information below is provided as guidance only. Always check the TDG Act and Regulations to ensure compliance.

Please also see the following documents in this series:

- TDG – Training
- TDG – Classification
- TDG – Nine Classes
- TDG – “Special Case” and “Special Provision” Exemptions

What are dangerous goods?

A product is considered to be a dangerous good when one of the following conditions is met:

- it is listed in Schedule 1 or Schedule 3 of the TDG Regulations,
- or if it is not listed in Schedule 1 or 3, it meets one or more of the classification criteria in Part 2 of the TDG Regulations.

What are the key elements of TDG?

The TDG Regulations are a set of rules that prescribe safety standards and shipping requirements for thousands of different dangerous goods. The Regulations also provide a means of communicating the nature and level of hazard and risk associated with these dangerous goods. The key elements of TDG Regulations are:

- Training
- Classification
- Preparation of documents such as shipping papers
- Using dangerous goods safety marks to communicate hazards that the product may pose to the public or the environment
- Selection of appropriate containment (packaging)
- Emergency response assistance plans (ERAP) if required
- Reporting incidents

Training is the most important element. Employees must receive training before they handle dangerous goods.

Are the TDG Regulations federal or provincial legislation?

There are both federal and provincial TDG Regulations. Provincial and territorial requirements typically parallel the federal regulations. Generally, the provincial TDG Regulations apply to the handling and transportation of dangerous goods within the Province on highways, as defined in the Motor Vehicle Act and on rail vehicles that are within the provincial jurisdiction.

Who must comply with TDG?

Anyone who handles (ships, transports, and receives) dangerous goods by road, rail, air, or water (marine) must comply with the TDG Regulations. Handling is defined in the TDG Act as:

“handling means loading, unloading, packing or unpacking dangerous goods in a means of containment for the purposes of, in the course of or following transportation and includes storing them in the course of transportation (manutention)”

The federal TDG Regulations apply to everyone. The regulations even apply when a member of the public transports dangerous goods such as gasoline, oxygen, and propane for personal use. However, certain exemptions exist for small quantities or for specific situations.

In most cases, there are three main groups of people who handle, offer for transport, or transport dangerous goods who must comply with TDG. These groups are:

- Consignors – Anyone whose shipping name is on the shipping document or imports or has possession of the dangerous goods immediately before shipping dangerous goods such as manufacturers, distributors, or members of the public.
- Carriers – Anyone who transports the dangerous goods such as trucking companies, air cargo companies, marine shipping companies, and members of the public.
- Consignees – Anyone who receives the dangerous goods from a consignor or carrier.

The TDG directorate has published a competency checklist.

How do I know if a product is regulated under the TDG Regulations?

If you are the manufacturer and if your product meets the definition for a dangerous good (and if the dangerous good is not exempt under the TDG Regulations), then the product is regulated under the TDG Regulations. In this case, you must comply with the TDG legislation.

Be sure to examine all of the TDG requirements. For example, if your product is not listed in Schedule 1 or Schedule 3, you must test your product according to Part 2. If the product meets any of the classification criteria in Part 2, then it is regulated under the TDG Regulations.

Keep the classification documentation and information in case an inspector or a customer requests for a proof of classification (see further below).

If you are a distributor or an employer and need to ship or re-direct a product, check with the manufacturer/consignor or the transportation section (Section 14) in the safety data sheet (SDS) to find out if a product is regulated. If you do not have an SDS and the manufacturer or distributor are no longer in business, you will need to determine whether the product is a dangerous good in the same way as a manufacturer does.

When do the TDG Regulations apply?

When the following three conditions are met, the TDG Regulations will apply:

1. the product meets the definition for a dangerous good, and
2. if the product does not meet any of the exemptions (see below) in the TDG Regulations, and
3. if the product is being transported outside the boundaries of a facility.

When the above conditions are met, all of the steps in transportation must be done in compliance with the TDG Regulations, including those segments taking place within a facility (e.g., loading, unloading, labelling, placarding, etc.). Note that TDG Regulations generally do not apply when dangerous goods are moved only within the company's building, facility or private property.

How do I know if the product meets any of the exemptions?

Most of the exemptions, are specified in the TDG "Special Cases" which are listed in Part 1 under Sections 1.15 to 1.50. Special cases may exempt the product from:

- all the requirements of the TDG Regulations,
- some parts of the Regulations,
- some sections of the Regulations, or
- give alternative ways of complying with the Regulations.

Are there any dangerous goods that are forbidden from being shipped?

Yes. A product may not be allowed to be shipped (forbidden) by either a specific route or by all routes. An example is UN1770 Diphenlymethyl bromide which is forbidden by ship as indicated in Schedule 1. Chlorine dioxide is an example of a product that is forbidden by all routes as indicated in Schedule 3 with an entry of Forbidden in Column 2 – Hazard Class.

What are the steps a consignor or shipper must follow when shipping dangerous goods?

The following steps must be followed in the order they are presented below.

- Train employees in TDG and issue certificate before they handle the dangerous goods.
- Ensure a competent person who has been trained in TDG determines the classification of the product.
- Ensure a competent person who has been trained in TDG selects the appropriate container or packaging.
- Ensure a competent person who has been trained in TDG selects labels or placards for the containment (e.g., containers such as drums and pails, tanks, etc.) and applies the labels or placards on the containment.
- Ensure a competent person who has been trained in TDG prepares the shipping papers and any other documents such as Emergency Response Assistance Plan (ERAP) that are required under the TDG Regulations.
- Ensure the carrier has the correct shipping papers and that the truck has the correct placards (if required) before it is loaded.

When do employees need training?

Before employees can ship dangerous goods, they must be trained or be under the direct supervision of a TDG certified employee. Training may not be required when dangerous goods are shipped by using one of the Special Case exemptions.

Who is responsible for determining if products meet any of the classification criteria specified for dangerous goods?

The consignor or shipper is responsible for determining if a product meets one or more criteria for dangerous goods.

The consignor may use the classification made by the manufacturer or a previous consignor. However, the consignor is responsible for making a proof of classification available to the Minister if requested.

What is a proof of classification?

A proof of classification is a document that the consignor must provide, upon request, to the federal Minister of Transport. This document may be:

- a test report,
- a lab report, or
- a document that explains how the dangerous goods were classified.

The proof of classification must include the following information:

- the date on which the dangerous goods were classified,
- if applicable, the technical name of the dangerous goods,
- the classification of the dangerous goods, and
- if applicable, the classification method used under Part 2 of the TDG Regulations or under Chapter 2 of the UN Recommendations.

Where can I get my product analyzed for classification?

The TDG Directorate keeps a list of laboratories that provide dangerous goods analysis and classification. The TDG Directorate has not examined or certified any of the laboratories listed. Being on this list does not mean Transport Canada or the TDG Directorate endorses or approves their services.

How do I select the correct containment or packaging for my dangerous goods?

The consignor is responsible for certifying that the dangerous goods are properly packaged, classified, and identified. The selection of containment for dangerous goods depends on number of factors. These factors include:

- the TDG class and packing group
- size of containment (small: less than or equal to 450 L, or large: greater than 450 L)
- mode of transport (road, air, or marine)
- destination

Most means of containment standards in Canada are based on the United Nations (UN) Recommendations. UN standardized means of containment are internationally recognized and can be used anywhere in the world and by any mode of transport. However, some means of containment standards are specific to Canada. Canadian means of containment will display the TC marking. The TC mark means of containment can be used in Canada. A TC/DOT dual marking will be used if the specifications to which they are manufactured also correspond to American standards for Department of Transportation (DOT) specifications.

The TDG specifications for containment are in Part 5 and further guidance is provided at TDG’s page on containers.

What is a dangerous good safety mark?

A dangerous goods safety mark can be a label, placard, orange panel, sign, mark, letter, word, number or abbreviation, or any combination of these things. Safety marks provide quick identification of the dangerous goods’ and their hazards.

How do I know what dangerous goods safety marks are needed?

The type of dangerous goods safety marks required will depend on the size of the container and on the classification of the dangerous goods. If the individual

containment is 450 litres or less, a label is required. If the containment is greater than 450 litres, a placard is required. The type of label or placard required depends on the dangerous goods class. This information is specified in Part 4 of the TDG Regulations and TDG's bulletin on safety marks.

What documents do I need to prepare to ship dangerous goods?

Before you can ship a dangerous good, you will need to prepare a shipping document. The information required in a shipping document is specified in Part 3 of the TDG Regulations and in TDG's bulletin on shipping documents. Special provisions are listed in Schedule 2 of the regulations.

As a minimum, the shipping document must contain:

- Consignor's name and address in Canada
- Date of shipment
- Description of the dangerous goods in the following order:
    - UN number (e.g., UN1230)
    - Dangerous goods shipping name (e.g., Methanol)
    - If applicable, the technical name in parenthesis immediate after the shipping name for dangerous goods subject to Special Provisions 16
    - For liquified petroleum gas that has not been odorized, the words "not odorized"
    - Primary class and subsidiary class (e.g., 3(6.1)), with the compatibility group letter, following the primary class, for explosives
    - If applicable, the packing group in roman numerals (e.g., I, II or III)
    - If applicable, the words "toxic by inhalation" or "toxic – inhalation hazard" for dangerous goods subject to Special Provision 23
- The quantity in metric measurement (e.g., kg or L) for transport originating in Canada
    - For Class 1, Explosives, the quantity must be expressed in net explosives quantity (NEQ) in kg. For explosives subject to Special Provision 85 or 86, it must be expressed in number of articles or NEQ
- The 24-hour number of:
    - an individual who works for the consignor who can provide technical information on the dangerous goods without breaking the telephone connection made by the caller, or
    - the telephone number of a person who is not the consignor, such as CANUTEC, but who is competent to give the technical information. NOTE: In order to use the CANUTEC's telephone number, the consignor must receive permission, in writing, from CANUTEC, or
    - an organization or agency other than CANUTEC. The shipper 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.
- The consignor's certification.

In some cases, you may need to include more information, such as:

- The number of small means of containment (i.e., capacity of 450 L or less) that require labels
- The technical name or the statement "not odorized"
- The Emergency Response Assistance Plan (ERAP) reference number and the ERAP telephone number
- The flash point if the product is a Class 3, Flammable Liquids and is being

transported on a ship or vessel (e.g., gasoline, diesel, etc.)
- Special instructions such as the control and emergency control temperatures of Classes 4.1 and 5.2
- The words “marine pollutant” for dangerous goods that are marine pollutants under Section 2.7 of Part 2 and are being transported on a ship or vessel
- For a pesticide that is a marine pollutant being transported on a ship, the name and concentration of the most active substance in the pesticide

Some dangerous goods may need an ERAP. See Part 7 of the regulations. This requirement will be specified in column 7 in Schedule 1. Additional information is provided by TDG on ERAP.

Are there specific requirements to follow when loading dangerous goods in the vehicle?

Yes. When dangerous goods of different classifications (e.g., Class 3 flammable liquids and Class 8 corrosives) in containers are loaded in a vehicle, the goods may need to be segregated if the dangerous goods are incompatible (i.e., the products may react together in case of a spill).

In general, segregation applies to packages as well as to transport vehicles. The intention is that:

- incompatible substances must not be combined in the same packaging.
- packages containing substances that are incompatible must be isolated from each other within the same means of transport.
- at other times, packages containing substances that are incompatible must not be shipped within the same means of transport.

What do I do in case of a spill or an emergency?

In an emergency involving dangerous goods, call CANUTEC at 1-888-CAN-UTEC (226-8832) or 613-996-6666 or *666 on a cellular phone.

Incidents can occur while dangerous goods are being transported, while they are handled, or during temporary storage waiting for transport. In an incident involving dangerous goods, there is a requirement to report the incident if it meets the reporting requirements defined in the TDG Regulations. Consult Part 8 of the regulations for information on these reporting requirements.

Is there reciprocity between Canada and USA for TDG?

Generally, yes there is. However, there are some exceptions.

Training documents – Transport Canada recognizes:

- the HazMat (dangerous goods) endorsement of the Commercial Driver’s Licence.
- a copy of the certification stipulated in Section 172.704 (d) (5) of the 49 CFR (Code of Federal Regulations).
- a TDG training certificate issued under Part 6 of the TDG Regulations.

The U.S. Department of Transportation – Federal Motor Carrier Safety Administration will accept a Canadian driver’s TDG training certificate in lieu of a HazMat endorsement.

Labels and placards – In general, labels and placards from the United States are accepted in Canada by virtue of the reciprocity that exists between the two countries. However, this reciprocity does not apply to American labels and placards for dangerous goods included in Class 2.3 and Class 6.1 (Paragraph 9.1(1)c)). For these two classes, labels and placards must be those required by the TDG Regulations.

Which regulations do I use when sending dangerous goods by air and marine?

Air – When transporting dangerous goods with an aircraft, comply with Section 12.14 of the TDG Regulations for domestic flights or the International Civil Aviation Organization (ICAO) Technical Instructions for international flights.

Marine – Generally Canada regulates marine transportation of packaged dangerous goods under two different Acts and related safety regulations:

- The Transportation of Dangerous Goods Act, 1992 (TDG Act) and the Transportation of Dangerous Goods Regulations are administered by Transport Canada's Transport Dangerous Goods Directorate.
- The Canada Shipping Act, 2001 (CSA 2001) and the Cargo, Fumigation and Tackle Regulations are administered by Transport Canada's Marine Safety and Security Directorate.

Who enforces the TDG legislation?

Whether or not the TDG Regulations are provincial or federal, they are enforced by the province as the TDG Directorate (who is responsible for the federal TDG Regulations) has a Memorandum of Understanding with each province and territory. Trans-border shipments are also enforced by Canada's Border Service Agency (CBSA).

What happens if I do not comply with the TDG legislation?

The penalties for not complying are substantial. For example, any person who contravenes or disobeys the TDG Act can be charged with:

- up to $50,000 for a first offence.
- subsequent offences of up to $100,000.
- and up to 2 years of imprisonment for indictable offence.

The above penalties can be found in the TDG Act.

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