



# Global Regulatory Landscape: Transport Canada's Transportation of Dangerous Goods (TDG) Program

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# Objectives

- To provide an overview of:
  - Legislative and regulatory landscape in Canada;
  - Strengthening the supply chain;
  - Leveraging technology; and
  - Achieving International Alignment.



# *Transportation of Dangerous Goods Act*

- *Transportation of Dangerous Goods Act (TDG Act) 1992*, provides for safety and security requirements during the importation, handling, offering for transport and transportation of dangerous goods (DGs)

## **Key elements:**

- Requiring security plans and security training;
- Enabling the use of Security Measures and Interim Orders;
- Enabling regulations to be made to require that DGs are tracked during transport or reported if lost or stolen; and
- Reinforcing the existing Emergency Response Assistance Program (ERAP) to equally address responses to security incidents and accidents during the transportation of DGs.



# TDG Regulations

**Set of rules** prescribing safety standards and shipping requirements for thousands of different DGs

Provide means of **communicating the nature and level of hazard and risk** associated with these DGs

Regulations **adopted by all provinces and territories**

Scope that encompasses a **wide range of materials considered dangerous when transported** (e.g., substances such as flammable liquids, gases, toxic substances, corrosive materials, infectious substances, etc.)

Regulations apply to various modes of transportation, **including road, rail, air, and marine**

# TDG PROGRAM: MANDATE AND VISION

## Mandate

Maintain a modern regulatory framework, conduct oversight, research, and analysis; to protect people and the environment

## Vision

Agile, data driven, and risk-based organization that advances the safe multimodal transportation of dangerous goods

## Program Pillars



**TDG Program** develops safety standards and regulations, provides risk-based oversight, and gives expert advice to promote public safety in the transportation of dangerous goods (DGs) by all modes regulated by Transport Canada (TC).

The Program is also responsible for TDG research and data analysis, and international collaboration to ensure a safe and secure transportation of DGs in Canada.

# TDG PROGRAM: AN OVERVIEW

**+2,500**

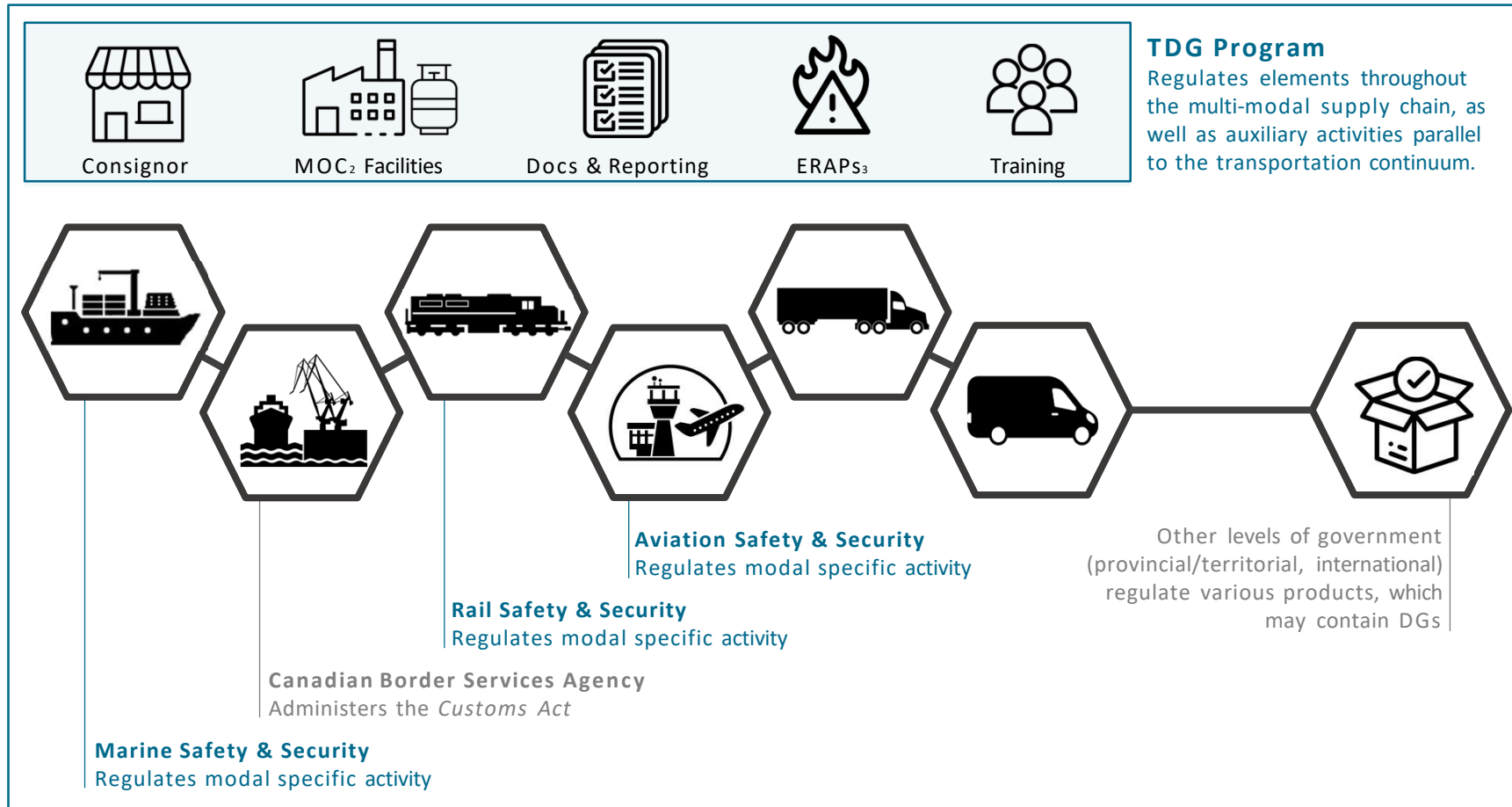
Groups of DGs<sup>1</sup> across nine classes

**30 million**

Shipments of DGs in Canada per year

**99.998%**

Success rate of shipments arriving without incident



1 – Dangerous goods  
2 – Means of containment  
3 – Emergency Response Assistance Plans

# PROMOTING PUBLIC SAFETY



## Canadian Transportation Emergency Center (CANUTEC)

National advisory service to assist local emergency response personnel in handling DG<sub>1</sub> incidents on a 24/7 basis, staffed by chemist specializing in emergency response and technical fields.

CANUTEC Advisors interpret technical information from scientific sources to provide timely advice

[Responding to Dangerous Goods Incidents with CANUTEC \(video\)](#)

- 1979 ● CANUTEC is established to promote public safety in the transportation of DGs
- 1979 ● The Mississauga train derailment leads to the evacuation of more than 200,000 people
- 1980 ● The original *Transportation of Dangerous Goods Act* is passed in Parliament
- 1981 ● The Grange Report (re: Mississauga derailment) advises that TC provide educational programs to local first responders
- 1985 ● The first set of *Transportation of Dangerous Goods Regulations* are developed and come into force.
- 2024 ● Publishing of the 2024 Emergency Response Guidebook (ERG) developed by the US-DOT, TC and the Secretariat of Transport and Communications of Mexico, with help from the Centro de Información Química para Emergencias of Argentina

### KEY SERVICES

Bilingual advice to first responders  
Database of +3.4 million DGs  
Access to 4 million safety data sheets  
Development of ERG<sub>2</sub> w/ int'l partners

### REPORTING REQUIREMENT

In the event of a DG incident by rail, road, air or marine, regulated entities must report incident details to CANUTEC within a specified period of the incident taking place

### ANNUAL ACTIVITY

200 simulations with first responders  
900 municipalities advised of rail activity  
1,500 emergency situations  
10,000 companies registered  
25,000 communications a year  
37,000 hits on e-versions of the ERG

<sup>1</sup> – Dangerous goods  
<sup>2</sup> – Emergency Response Guidebook

# Strengthening the Supply Chain



# Bill C-33: Strengthening the Port System and Railway Safety in Canada Act

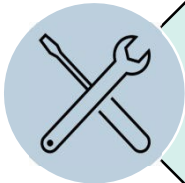
- Would amend several Acts to strengthen the port system, marine security, and railway safety in Canada;
- Addresses issues identified in TC's Ports Modernization Review (completed in 2022) and the *Railway Safety Act* review (completed in 2018);
- Proposes changes to modernize the TDG Act by removing systemic barriers to create a more fluid, secure, and resilient supply chain; and
- In approval stages in Canadian Parliament.

# Changes to the TDG Act



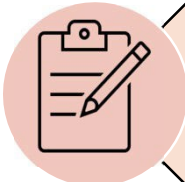
## Provide TC with new tools to promote compliance

Build a new enforcement tool (**Administrative Monetary Penalties (AMPs)** Regime), and **Compliance Agreements (CAs)** to apply AMPs towards rectifying non-compliance



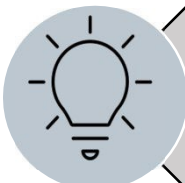
## Address ongoing and emergency safety risks

Amend parts of the TDG Act to clarify and increase regulation effectiveness in the event of an emergency



## Require registration through a new tool

Provide a tool to identify persons who import, offer for transport, handle or transport DGs



## Provide clarity through definitions

Allow TC to define key terms related to how DGs are contained and transported



## Support public safety

Give the Minister of Transport more authorities to support public safety

# Canadian Regulations Update

# International Harmonization Update / Part 12 (Air)

- The proposed Regulations would:
  - Better align the TDG Regulations with the UN Model Regulations
    - Classification process;
    - 16 new UN numbers;
    - New special provisions and update existing ones;
    - Safety marks requirements; and
    - Terminology.
- Better align the TDG Regulations with the Title 49 of the Code of Federal Regulations (49 CFR)

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# International Harmonization Update / Part 12 (Air) cont'd

- Modernize outdated requirements for the transport of DGs by air;
- Facilitate the transport of DGs between Canada and the United States;
- Promote competitiveness by introducing a technical standard for the manufacture of large packaging;
- Enhance safety for Canadian businesses by adopting cost saving amendments and safe alternative provisions in the TDG Regulations (TDGR);
- Improve clarity, consistency, and certainty for stakeholders by ensuring that the same requirements apply to both domestic and international transport of DGs; and
- Expected to be published in the *Canada Gazette*, Part II – Fall 2025.



# Canadian Update

- Align the TDG Regulations with new industry practices and address comments received over the years
  - Major updates:
    - Scope of the Anhydrous Ammonia Exemption;
    - Safety Standards; and
    - Administrative provisions.
- Remove the need for many equivalency certificates issued for:
  - use of oxygen for personal use during transport by passengers on a road vehicle, railway vehicle or vessel on domestic voyages;
  - transportation of Radioactive material used in medical treatment, diagnostic or medical assessment; and
  - DGs used for the transport of live fish and other aquatic organisms by allowing aeration and oxygenation units to be used during transport.
- Expected to be published in the *Canada Gazette*, Part II – Fall 2025



# Training (Part 6)

- Work began to clarify existing training requirements to improve overall safety in the transportation of DGs;
- Preliminary consultations done with Canadian industry regarding implementing a Competency-Based Training and Assessment Approach;
- Canadian stakeholders supported the amendment; but raised concerns over the cost of implementation; and
- TC will be conducting a review of different training approaches.<sup>16</sup>



# Reverse Logistics

- Consumer returning products that contain DGs is posing challenges;
- Conducting public outreach to increase awareness of how to safely return DGs;
- A campaign is presently in progress to inform the necessary steps to minimize the risks of incidents when offering DGs for transport; and
- Clarifying regulatory language surrounding previous<sup>17</sup> classifications.





# Lithium Battery Campaign



- In 2022, TC launched the Lithium Battery (LB) by Air Awareness campaign to educate travelers on the safe handling of lithium batteries while flying.
- Videos are accessible via YouTube:
  - English: <https://www.youtube.com/watch?v=P9UyAU3Lje8>
  - French: [https://www.youtube.com/watch?v=TfrH\\_Y4lvyc](https://www.youtube.com/watch?v=TfrH_Y4lvyc)
- Currently, developing a campaign for Lithium Battery for Consumer Awareness to inform of the importance of purchasing good quality replacement Lithium-Ion batteries for devices.
- Supported by new guidance material: Lithium batteries – Be aware of what you buy (canada.ca).

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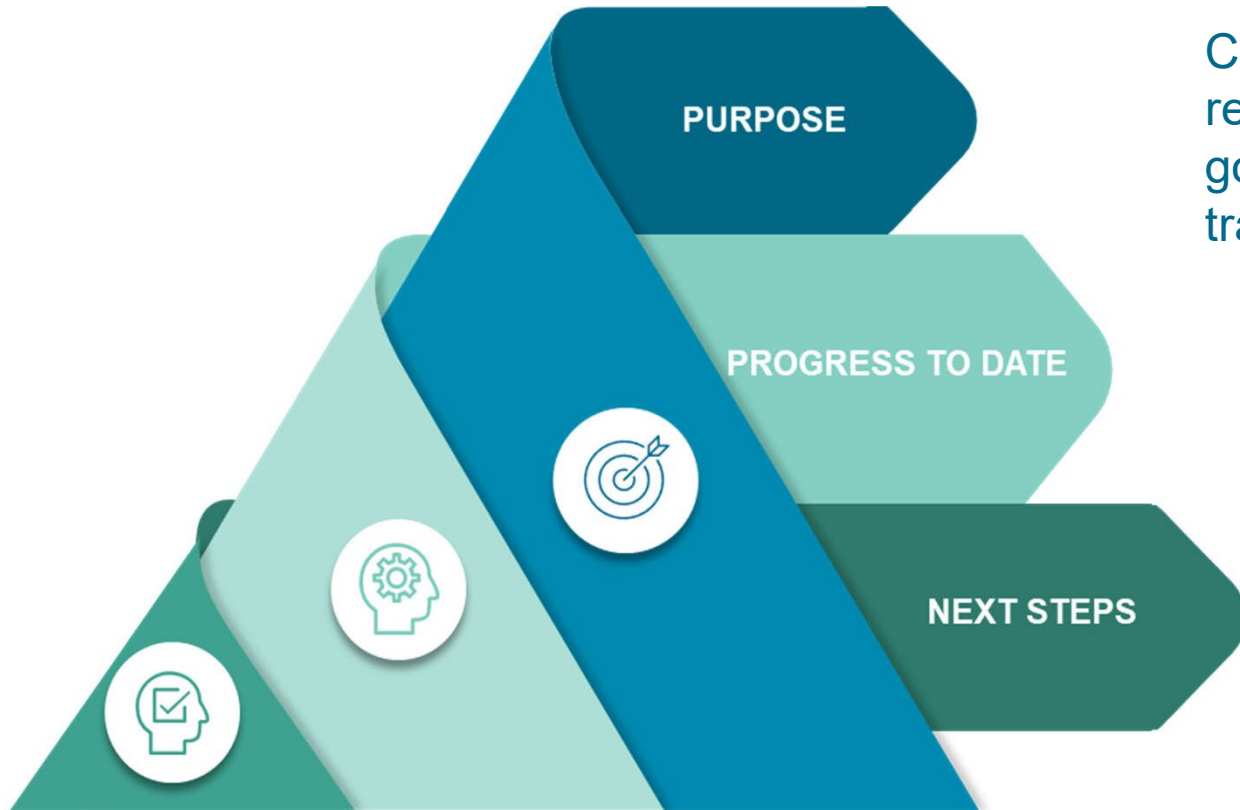


# Leveraging Technology

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# Canadian Client Identification Database (CID)



Create an accurate and reliable inventory of regulated parties and sites where dangerous goods (DGs) are imported, offered for transport, handled, or transported in Canada.

Publication in the Canada Gazette, Part II and guidance documents (October 25, 2023)

- Continue awareness activities
- Publication of a video and a point and click demo

**Registrations must be completed by October 25, 2024**



## What is considered a site?



A permanent location where DGs are imported, offered for transport, handled or transported and are in the direct possession of a person conducting these activities but does not include a location where DGs are used only in the scope of a person's work or as raw materials in products that they manufacture.

# Information Needed for New Registration

## Elements



### Basic Information and some Risk-Relevant Information

#### ORGANIZATION NAME:



- Canada Revenue Agency (CRA) Business Number;
- Legal Name;
- Primary Business Address;
- Designated Contact Person and Alternate;
- Phone Number & Email Address; and
- North American Industry Classification System (NAICS) (voluntary).

#### SITE INFORMATION



- Physical Site\* Addresses where dangerous goods (DGs) activities are taking place;
- Modal Information (i.e., modal type);
- Type of DG activity; and
- Classes & Divisions for all DGs.

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# Remotely Piloted Aircrafts

- Dangerous goods are currently permitted for transport using Remotely Piloted Aircraft (RPA) under the TDG Regulations, but they are prohibited under the Canadian Aviation Regulations;
- Regulatory gap exists in the TDGR as reference is not made to RPA, as such the Canadian regulatory requirements that apply to conventional manned aircraft also apply to RPA;
- Regulatory amendment will be introduced that covers small and medium size drones to incorporate provisions that address risk considerations specific to RPA;
- *Canada Gazette*, Part I - expected Fall 2025/Winter 2026; and
- *Canada Gazette*, Part II - expected 2027.

# International Alignment

# United States Pipeline and Hazardous Materials Safety Administration (PHMSA)

- Harmonization of Canada-U.S. regulations and processes, to extent possible, with the US-Department of Transportation (PHMSA);
- Quarterly meetings between the TDG Directorate and PHMSA to discuss range of policy, regulatory, technical, and operational issues;
- Emergency Response Guidebook (ERG); and
- Commercial Vehicle Safety Alliance (CVSA) / Hazardous Materials / TDG Road Blitz 2024 is in the planning stages.



# Enforcement Blitz

## North America TDG/HAZMAT CVSA Road Blitz results/findings for 2023

Number of HM/DG Classes Inspected				
Class	Description	Canada	U.S.	Total
Class 1	Explosives, such as ammunition, fireworks, flares, etc.	40	137	177
Class 2	Gases, Flammable, non-flammable oxygen and inhalation hazards.	348	1,392	1,740
Class 3	Flammable and combustible liquids, such as fuel oil, acetone, adhesives, paints, gasoline, ethanol, methanol, some pesticides, etc.	628	3,326	3,954
Class 4	Flammable solids, substances liable to spontaneously combust and substances that, on contact with water, emit flammable gases, such as white phosphorus and sodium.	48	155	203
Class 5	Oxidizing agents and organic peroxides, such as hydrogen peroxide, potassium permanganate, sodium nitrite, ammonium nitrate fertilizers and oxygen generators.	58	173	231
Class 6	Toxic and infectious substances; any material, other than a gas, that is so toxic to humans that it presents a health hazard during transportation, such as cyanide, biological samples, clinical wastes and some pesticides.	40	121	161
Class 7	Radioactive materials, such as cobalt-60 and cesium-137.	5	41	46
Class 8	Liquid or solid corrosive substances, such as sulfuric acid and sodium hydroxide, that cause full thickness destruction of human skin at the site of contact within a specified time.	266	989	1,255
Class 9	Miscellaneous HM/DG, such as acetaldehyde ammonia, asbestos, elevated temperature materials and benzaldehyde.	98	468	566
<b>Total</b>		<b>1,531</b>	<b>6,802</b>	<b>8,333</b>

# International Committees

- Transport Canada participates in a range of international committees such as the United Nations Sub-Committee on TDG, and the International Civil Aviation Organization (ICAO).
- Most of Canada's domestic regulations is based on the UN Model Regulations.
- Canada is a voting member of the ICAO Dangerous Goods Panel and actively participates in several working groups.
- Examples of issues of interest:
  - Lithium Batteries;
  - Hydrogen;
    - Liquid organic hydrogen carrier; and
    - Fiber-reinforced plastic (FRP) UN Portable Tanks for Class 2.

**Thank you /  
Questions?**

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