TDG-001 Chapter 7 Notes

Preparation

Preparing for the transportation of dangerous goods in Canada involves several steps to ensure compliance with regulations and the safe handling of hazardous materials. Here's a step by step guide:

Classification

Determine the classification of the dangerous goods being transported according to the Transportation of Dangerous Goods (TDG) Regulations. Classify substances based on their properties, such as flammability, toxicity, and corrosiveness.

Packaging

Select appropriate packaging that meets the requirements for the class of dangerous goods being transported. Ensure that packaging is UN-certified and suitable for the specific substances being shipped. Use inner packaging, absorbent materials, and cushioning as necessary to prevent leaks and spills.

Marking and Labeling

Mark containers with the appropriate UN number, shipping name, and hazard symbols according to the TDG Regulations. Apply labels and placards indicating the primary and subsidiary hazards of the dangerous goods. Ensure that markings and labels are clear, durable, and prominently displayed.

Documentation

Prepare shipping documents, including a shipping manifest or shipping paper, detailing the contents of the shipment and emergency response information. Include information such as the UN number, shipping name, quantity, and consignor/consignee details. Keep copies of shipping documents with the shipment and provide copies to carriers and authorities as required. Shipping documents must also be kept on file for at least two years.

Training

Ensure that personnel involved in the transportation of dangerous goods receive adequate training on handling, packaging, and emergency response procedures. Training should

cover the classification of dangerous goods, proper packaging and labeling, and procedures for handling spills or emergencies.

Vehicle Inspection

Inspect vehicles and transport containers to ensure they are in good condition and suitable for transporting dangerous goods. Check for leaks, damage, and proper securing of cargo. Ensure that vehicles are equipped with appropriate safety equipment, such as spill kits, fire extinguishers, and emergency response information.

Emergency Response Plan

Develop an emergency response plan outlining procedures for responding to accidents, spills, or other emergencies during transportation. Provide training to personnel on emergency response procedures and ensure that appropriate equipment and resources are readily available.

Regulatory Compliance

Familiarize yourself with the TDG Regulations and other applicable laws and regulations governing the transportation of dangerous goods in Canada. Ensure compliance with requirements for packaging, labeling, documentation, and vehicle safety.

Communication

Communicate with carriers, consignors, and consignees to coordinate the safe transportation of dangerous goods. Provide clear instructions and information about the contents of the shipment, handling procedures, and emergency contacts.

Reportable Quantities

The Transportation of Dangerous Goods Regulations specifies reportable quantities for certain hazardous materials. Reportable quantities are the amounts of dangerous goods that, if spilled or released during transportation, could pose significant risks to public safety, property, or the environment, and therefore must be reported to the appropriate authorities. Here are some examples of reportable quantities for common classes of dangerous goods:

Class 1: Explosives

The reportable quantities for Class 1 dangerous goods (explosives) in Canada are specified in Part 8 (Reporting Requirements) of the TDG Regulations. The specific reportable quantities can vary depending on the classification of the explosive material and its potential impact on safety and the environment.

For example, some common explosives and their reportable quantities in Canada might include:

- TNT (Trinitrotoluene): 100 kilograms
- Dynamite: 100 kilograms
- Nitroglycerin: 100 kilograms
- Black powder: 100 kilograms

Class 2: Gases

Reportable quantities for Class 2 dangerous goods (gases) in Canada typically range from 25 kilograms to 1,000 kilograms, depending on the specific gas and its hazard properties. However, it's important to consult the most current version of the TDG Regulations for the exact reportable quantities for each type of gas.

For example, common gases and their reportable quantities in Canada might include:

- Liquefied petroleum gas (LPG): 100 kilograms
- Propane: 100 kilograms
- Oxygen: 1,000 kilograms
- Hydrogen: 100 kilograms

Class 3: Flammable Liquids

Reportable quantities for Class 3 dangerous goods (flammable liquids) in Canada typically range from 30 liters to 1,000 liters, depending on the specific substance and its hazard properties. However, it's important to consult the most current version of the TDG Regulations for the exact reportable quantities for each type of flammable liquid.

For example, common flammable liquids and their reportable quantities in Canada might include:

- Gasoline: 200 liters
- Diesel fuel: 200 liters

- Ethanol: 200 liters
- Acetone: 200 liters

Class 4: Flammable Solids

Reportable quantities for Class 4 dangerous goods typically range from 30 kilograms to 500 kilograms, depending on the specific substance and its hazard properties. However, it's essential to consult the most current version of the TDG Regulations for the exact reportable quantities for each type of Class 4 dangerous goods.

For example, common Class 4 dangerous goods and their reportable quantities might include:

- Flammable solids, such as matches: 500 kilograms
- Substances liable to spontaneous combustion, such as certain types of oily rags: 100 kilograms
- Substances that emit flammable gases when in contact with water, such as sodium: 100 kilograms

Class 5: Oxidizing Substances and Organic Peroxides:

Reportable quantities for Class 5 dangerous goods typically range from 30 kilograms to 500 kilograms, depending on the specific substance and its hazard properties. However, it's important to consult the most current version of the TDG Regulations for the exact reportable quantities for each type of Class 5 dangerous goods.

For example, common Class 5 dangerous goods and their reportable quantities in might include:

- Oxidizing substances, such as hydrogen peroxide: 500 kilograms
- Organic peroxides, such as tert-butyl hydroperoxide: 100 kilograms

Class 6: Toxic and Infectious Substances

Reportable quantities for Class 6 dangerous goods typically range from 5 kilograms to 500 kilograms, depending on the specific substance and its hazard properties. However, it's

important to consult the most current version of the TDG Regulations for the exact reportable quantities for each type of Class 6 dangerous goods.

For example, common Class 6 dangerous goods and their reportable quantities might include:

- Toxic substances, such as cyanides: 5 kilograms
- Infectious substances, such as cultures of infectious agents: 5 kilograms

Class 7: Radioactive Materials

Reportable quantities for Class 7 dangerous goods in Canada typically range from 1 kilogram to 10,000 kilograms, depending on the specific radioactive material and its hazard properties. However, it's important to consult the most current version of the TDG Regulations for the exact reportable quantities for each type of Class 7 dangerous goods.

For example, common Class 7 dangerous goods and their reportable quantities in Canada might include:

- Uranium hexafluoride: 10,000 kilograms
- Plutonium: 1 kilogram
- Tritium gas: 1 kilogram

Class 8: Corrosive Substances

Reportable quantities for Class 8 dangerous goods in Canada typically range from 5 kilograms to 1,000 kilograms, depending on the specific corrosive substance and its hazard properties. However, it's important to consult the most current version of the TDG Regulations for the exact reportable quantities for each type of Class 8 dangerous goods.

For example, common Class 8 dangerous goods and their reportable quantities in Canada might include:

- Sulfuric acid: 100 kilograms
- Hydrochloric acid: 100 kilograms
- Sodium hydroxide (caustic soda): 100 kilograms

Class 9: Miscellaneous Dangerous Goods

For Class 9 dangerous goods, the reportable quantities can range from small amounts for specific substances to larger quantities for others. These quantities are typically determined based on the substance's hazardous properties and the potential risk it poses.

It's crucial to consult the most current version of the TDG Regulations for the exact reportable quantities for each type of Class 9 dangerous goods. Due to the wide variety of materials included in this class, specific examples of reportable quantities may not be provided in the regulations but are assessed on a case-by-case basis depending on the substance's characteristics and potential hazards.

It's important to note that reportable quantities may vary depending on the specific hazardous material and its classification. Carriers and handlers of dangerous goods are responsible for knowing and complying with the reportable quantities specified in the TDG Regulations and reporting any spills or releases that exceed these thresholds to the appropriate authorities, such as Transport Canada or the Canadian Transport Emergency Centre (CANUTEC).

Who to Notify

Reporting requirements in the event of an incident or emergency when transporting dangerous goods are outlined in the Transportation of Dangerous Goods (TDG) Regulations. These regulations specify procedures for reporting incidents involving dangerous goods to ensure the safety of the public, property, and the environment. Here are the reporting requirements in the event of an incident or emergency when transporting dangerous goods:

Immediate Notification

Immediately report any incident or emergency involving dangerous goods to the appropriate authorities. This includes spills, leaks, fires, explosions, or any other event that poses a risk to public safety, property, or the environment.

Transport Canada

Incidents involving dangerous goods during transportation must be reported to Transport Canada. This can be done through the Canadian Transport Emergency Centre (CANUTEC), which provides emergency response guidance and assistance.

Local Emergency Services

Notify local emergency services, including fire departments, police departments, and paramedics, of the incident or emergency. Emergency responders have the training and resources to assess and manage hazardous materials incidents and ensure public safety.

Provincial or Territorial Authorities

Depending on the jurisdiction, there may be additional reporting requirements to provincial or territorial authorities responsible for environmental protection, public safety, or transportation. These authorities may have specific reporting procedures and may need to be notified of incidents involving dangerous goods within their jurisdiction.

Railway Companies or Operators

If the transportation of dangerous goods involves rail transportation, notify the relevant railway company or operator of the incident or emergency. Railway companies have protocols and procedures for responding to incidents involving dangerous goods transported by rail.

Carrier or Shipper

Notify the carrier or shipper of the dangerous goods of any incidents or emergencies involving the transported goods. The carrier or shipper may have additional responsibilities and may need to coordinate with authorities and emergency responders to manage the situation effectively.

Documentation and Reporting

- Keep thorough documentation of the incident or emergency, including details such as the date, time, location, nature of the incident, type of dangerous goods involved, and any actions taken to mitigate the situation.
- Report the incident or emergency to the appropriate authorities as soon as possible, following any specific reporting requirements outlined in the TDG Regulations or by regulatory authorities.

Failure to comply with reporting requirements for incidents involving dangerous goods may result in penalties and enforcement actions. It's essential for individuals and organizations

involved in the transportation of dangerous goods to be familiar with reporting procedures and to act promptly to ensure a swift and coordinated response to protect public safety and the environment.

The procedure for reporting incidents involving dangerous goods is outlined in the Transportation of Dangerous Goods (TDG) Regulations. Here's an overview of the procedure for reporting incidents involving dangerous goods according to the TDG Regulations:

Immediate Notification:

Immediately report any incident or emergency involving dangerous goods to the appropriate authorities. This includes spills, leaks, fires, explosions, or any other event that poses a risk to public safety, property, or the environment.

Contact CANUTEC

- CANUTEC (Canadian Transport Emergency Centre) is the primary emergency response center operated by Transport Canada. They provide guidance and assistance for incidents involving dangerous goods.
- Call CANUTEC immediately in the event of an incident or emergency involving dangerous goods. They are available 24/7 and can provide immediate assistance and guidance to responders.

Provide Details

When contacting CANUTEC, provide as much detail as possible about the incident or emergency. This includes the location of the incident, type and quantity of dangerous goods involved, nature of the hazard, and any other relevant information.

Follow Instructions

Follow any instructions provided by CANUTEC for responding to the incident or emergency. They may provide guidance on containment measures, evacuation procedures, and other actions to mitigate the situation.

Notify Local Authorities

In addition to contacting CANUTEC, notify local emergency services, including fire departments, police departments, and paramedics, of the incident or emergency. Local authorities will respond to the scene and provide assistance as needed.

Document the Incident

Keep thorough documentation of the incident, including details such as the date, time, location, nature of the incident, type of dangerous goods involved, and any actions taken to mitigate the situation. This documentation may be required for reporting and investigation purposes.

Report to Transport Canada

Depending on the severity of the incident and the specific reporting requirements outlined in the TDG Regulations, it may be necessary to report the incident to Transport Canada. This typically applies to incidents involving significant releases or spills of dangerous goods.

Follow-Up and Compliance

Cooperate with any follow-up actions or investigations conducted by regulatory authorities, such as Transport Canada or other relevant agencies. Ensure compliance with any reporting requirements or directives provided by regulatory authorities.

By following these procedures for reporting incidents involving dangerous goods, individuals and organizations can ensure a swift and coordinated response to protect public safety, property, and the environment. Compliance with reporting requirements is essential for regulatory compliance and effective emergency response.

Required Information

When reporting incidents involving dangerous goods, it's essential to provide accurate and detailed information to the appropriate authorities. Here are the required pieces of information for reporting incidents of dangerous goods:

Date and Time of Incident

Provide the date and time when the incident occurred. This helps establish the timeline of events and aids in coordinating response efforts.

Location of Incident

Specify the exact location where the incident occurred, including the address, intersection, or geographical coordinates. This information is crucial for emergency responders to locate the scene of the incident.

Nature of Incident

Describe the nature of the incident, such as a spill, leak, fire, explosion, or other event. Provide details about the circumstances surrounding the incident and the observed or suspected hazards.

Type of Dangerous Goods Involved

Identify the type of dangerous goods involved in the incident. This includes the proper shipping name, UN number, hazard class, and any other relevant information about the hazardous material.

Quantity of Dangerous Goods

Specify the quantity of dangerous goods involved in the incident. Provide information about the volume, weight, or other measurements of the hazardous material released or affected by the incident.

Description of Hazards

Describe the hazards associated with the dangerous goods involved in the incident. This includes information about the physical, chemical, and toxicological properties of the hazardous material and the potential risks to public safety and the environment.

Actions Taken

Report any actions taken to mitigate the incident, such as containment measures, evacuation procedures, or emergency response efforts. Provide details about the effectiveness of these actions and any additional support needed.

Contact Information

Provide contact information for the person or organization reporting the incident. This includes the name, phone number, and email address of the responsible party for follow-up communication.

Additional Details

Include any other relevant information about the incident, such as weather conditions, environmental factors, or observations made by witnesses or responders. Additional details can help authorities assess the severity of the incident and determine the appropriate response.

Documentation

Maintain thorough documentation of the incident, including written reports, photographs, videos, and any other records. Documentation is essential for reporting, investigation, and compliance purposes.

By providing this required information when reporting incidents of dangerous goods, individuals and organizations can ensure a prompt and effective response from emergency responders and regulatory authorities, minimizing the risks to public safety, property, and the environment.