

TRANSPORT EMERGENCY PROCEDURES

Take these steps FOR ALL EMERGENCIES:

- Shut off the engine and any electrical equipment.
- Move people from the immediate area and stay upwind of the incident.
- Consider an initial evacuation distance of 100 metres in all directions.
- No smoking or naked flames are allowed within 50 metres.
- Do not use excessive force on the valves, and do not attempt to operate a damaged valve.
- Avoid breathing gas and making contact with skin or eyes.
- Notify the fire department and police; tell them that gas cylinders or receptacles are carried on board.

Vehicle accidents:

- Carry out actions under “FOR ALL EMERGENCIES” (above).
- Do not move the transport vehicle if doing so could cause spillage or generate sparks.
- Warn other traffic in the area.

Fires:

- Carry out actions under “FOR ALL EMERGENCIES” (above).
- Call the fire department.
- Close off the source of flammable gas, if it is safe to do so.

- Do not extinguish burning gas by any other means than cutting off the source of the gas supply. If this is not possible, leave the gas to burn.
- Do not approach cylinders suspected of being hot.
- Remove cool cylinders from the path of the fire.
- If the fire gets out of control and the cylinders become heated, evacuate personnel to a distance of least 100 metres in any direction and warn them against approaching.

First aid:

- Cold burns: Remove any clothing that restricts blood circulation, unless it adheres to the skin. Flush or soak the affected area with lukewarm or cold water.
- Hypothermia: Wrap subject in a blanket and move to a warm place.
- Call the local emergency services at 911 to seek professional medical treatment.

Canadian Emergency Response Reporting requirement:

When dangerous goods are spilled or leaking, or it seems likely that it may become necessary to transfer dangerous goods from a vehicle, the driver must immediately notify:

- the local police and/or other local authority first (see emergency contact numbers listed below)
- his/her employer;
- the consignor of the dangerous goods; and
- the owner or lessee of the vehicle.

Emergency Contact Numbers:

Alberta	(800) 272-9600 and local police
British Columbia	(800) 663-3456 and local police
Manitoba	(204) 945-4888 and local police
New Brunswick	(800) 565-1633 or local police
Newfoundland and Labrador	(709) 772-2083 and local police
Northwest Territories	(867) 920-8130
Nova Scotia	(800) 565-1633 (902) 426-6030 or local police
Nunavut	(867) 920-8130 and local police
Ontario	local police
Prince Edward Island	(800) 565-1633 or local police
Quebec	local police
Saskatchewan	(800) 667-7525 or local police
Yukon	(867) 667-7244

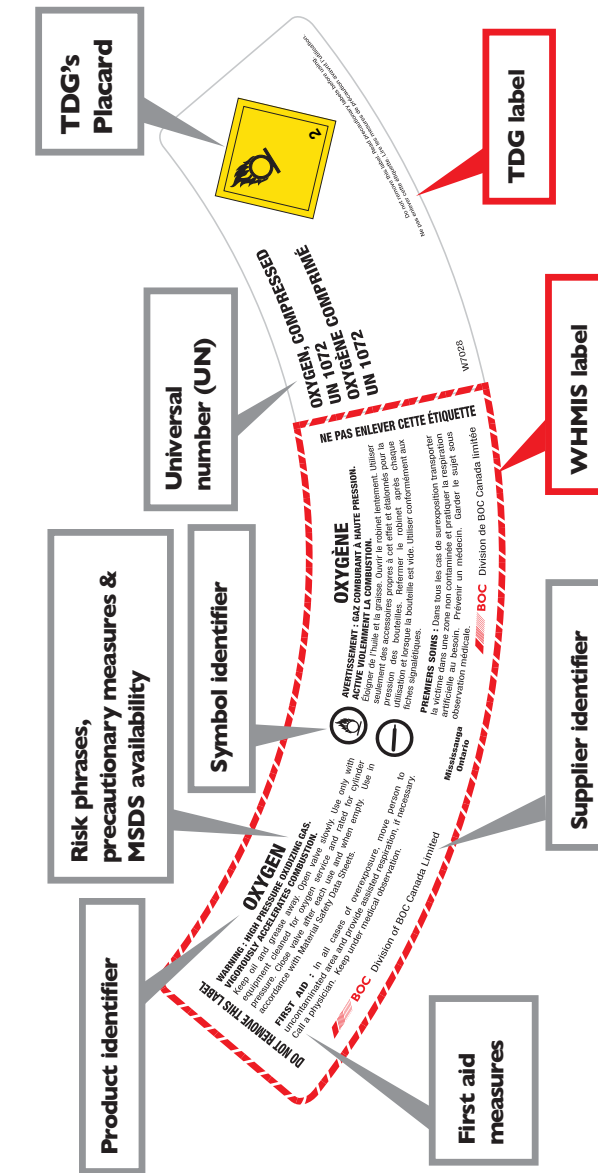


Aftermath of an explosion caused by a build-up of flammable gas in a vehicle

Emergency response information:

The Transport Dangerous Goods Directorate of Transport Canada operates CANUTEC (Canadian Transport Emergency Centre). CANUTEC provides a national bilingual advisory service and is staffed by professional chemists experienced and trained in interpreting technical information and providing emergency response advice. In an emergency, CANUTEC may be called collect at (613) 996-6666 (24 hours a day). In a non-emergency situation, CANUTEC's 24-hour information line is (613) 992-4624.

The information provided in this brochure is summary in nature and intended as a guide only. You should not rely on this information as being suitable for your particular circumstances. This information is not intended to replace any training required by the regulatory authorities, or which may be generally desirable. Legislation concerning the subject matter of this publication may apply; you should obtain legal advice or refer to the appropriate legislation to ensure compliance with your legal obligations.



544-0706E

Safe Cylinder Transport Policy

BOC wants you to be safe when transporting BOC gases

Did you know...?

Compressed and liquefied gases can be hazardous for the following reasons:

- When leaking, flammable gases such as Acetylene can create an explosive atmosphere in a vehicle.
- Oxygen enrichment causes material to ignite easily, and it will also increase the intensity of a fire. Nitrous Oxide (laughing gas) has similar properties.
- Inert gases such as Nitrogen, Argon and shielding gases can cause Oxygen deficiency and asphyxiation leading to drowsiness, unconsciousness and death.
- Toxic or corrosive gases may lead to a toxic atmosphere, which is hazardous to health by inhalation and/or skin contact.
- When a gas's pressure is high, a ruptured cylinder or valve can cause serious injury or damage.
- Cryogenic liquids are very cold and can cause cold skin burns and metal brittle fractures.
- When a liquefied gas is released, it vaporizes and creates large amounts of gas – amounts larger than the handler may be prepared or equipped to handle.
- Heat may cause any fitted operating safety device to release contents.

Information on the hazards of any given gas can be found on that gas's cylinder label, and in its Material Safety Data Sheet (which is available at the store).

PRECAUTIONS

General:

The safest and recommended method of transporting cylinders (i.e., gas cylinders and cryogenic receptacles) is by a professional gas transport company. Occasionally, there might be a need to use other transport systems, and it is then essential to follow safety instructions for both full and empty cylinders:



- Secure all cylinders, to keep them from moving during transport. Consider also the forces at work in possible traffic accidents.
- Limit the number of cylinders to be transported.
- Use open vehicles or trailers in preference to any enclosed vehicles or trailers. To allow for ventilation, do not cover cylinders with tarpaulin.
- Ensure that the contents labels on the cylinders can be clearly read.
- Never drop cylinders or submit them to shock.
- Where possible, use mechanical lifting devices and carts to move cylinders.

- Wear safety shoes or boots, safety glasses or goggles, and leather protective gloves when handling cylinders.
- Smoking is strictly forbidden when loading, transporting or unloading any cylinder, whether it contains flammable gas or not.

Enclosed vehicles:

For personal, non-commercial use, if there are no other practical methods of transport and the load contains fewer than five 30 kg cylinders, enclosed vehicles may be used subject to the following recommendations:

- Transport of cylinders in the passenger compartment should always be avoided whenever possible.
- If the cylinders must be in the passenger compartment, at least one window should be open and the ventilation fan on high speed when transporting the cylinders.
- If cylinders are in the trunk, the trunk lid should be held open in a fixed position; check the vehicle manufacturer's manual to ascertain whether driving with an open trunk or rear door is allowed or not.
- Unload the cylinders as soon as possible upon arrival at the destination, as ventilation decreases considerably when the vehicle is stopped or parked.
- Do not store or leave cylinders unattended in a vehicle for more than one hour, and definitely not overnight.
- Do not use the cylinders in an enclosed vehicle.

- Always transport liquid gases and Acetylene cylinders in an upright position.
- Carry a fire extinguisher suitable for vehicle fires.

When cylinders are continually transported in enclosed vehicles (such as ambulances, service vans with welding equipment, etc.), the following are recommended:

- A permanent system should be in place to secure the cylinders (i.e., both gas cylinders and cryogenic liquid receptacles).
- The vehicle should be equipped with adequately sized ventilation openings.
- The cylinders should be carried in a separate, gas-tight compartment that is ventilated to the outside.

When loading cylinders at a gas supplier site or shop, the personnel responsible for the sale and/or loading the cylinders should provide to the driver safety instructions concerning loading/unloading and transport, and make sure that they are properly understood.

The loading and transport of cylinders must comply with local regulations.

Gas cylinders:

When transporting a cylinder in an enclosed vehicle, consider the following:

- Do not transport cylinders containing toxic or flammable gases in enclosed vehicles.
- Before loading cylinders into an enclosed vehicle, tighten the cylinder valves and check that they are properly closed; also check carefully for gas leakage.

- Never transport a cylinder if a leak has been detected on it during loading.
- Never transport cylinders that have a regulator or other equipment attached.
- Do not remove any valve protection device (if fitted) during transport.

Legal considerations:

- Transport of Dangerous Goods (TDG) regulations apply.
- Local dangerous goods transport regulations apply.

Documentation:

Dangerous goods consignment documents and emergency procedure guides are required in the vehicle when dangerous goods are transported, except if the dangerous goods are transported for one's personal use.

Placards:

A placard is a 250 mm-wide dangerous goods class label that must be attached on all four sides of the vehicle when a load of dangerous goods exceeds a gross weight (i.e., both cylinder and gas) of 500 kg. When the load is reduced to less than 500 kg, these placards must be removed from all sides of the vehicle, so as not to mislead the emergency response unit.

Cryogenic liquid receptacles:

There are two types of portable cryogenic receptacles:

1. Open dewars that continuously vent into the atmosphere.

An Oxygen-deficient atmosphere will be created, so be sure to provide good ventilation, and secure the dewar in an upright position. Do not transport or use open dewars with Oxygen.

2. Closed vessels with pressure-relief devices:

Ensure that these vessels are in good condition, and that valve(s) are in the correct position for transport.

- Do not transport cryogenic receptacles with inert gases or containers with dry ice in the passenger compartment.
- When handling cryogenic receptacles, wear clothing that covers and protects the skin.