

Propane Safety

Propane is commonly used to fuel household appliances, such as fridges, stoves, furnaces, and outdoor equipment such as barbeques, portable heaters and appliances in recreational vehicles (RV). When used with care, propane is a safe, clean, non-toxic, inexpensive and energy efficient fuel, but it doesn't take much to create a hazardous situation in an enclosed space.

Fire Facts

- When ignited in an enclosed unventilated area, a dangerous and potentially fatal build up of carbon monoxide can occur.
- If propane leaks or builds up in an enclosed, unventilated area, it can cause an explosion when it comes in contact with a spark or open flame. The operation of a wall switch, a cell phone/telephone or transmitting 2-way radio can produce a hot enough spark to ignite propane.
- Exposure to propane in a confined, unventilated area can also cause an asphyxiation hazard (when a large amount of gas displaces the oxygen in the air).
- Propane is a colourless and odourless gas. A distinct odour resembling the smell of rotten eggs is added to it so that you can detect escaping gas.
- Propane is stored as a liquid in pressurized cylinders at cold temperatures and will burn your skin on contact.
- Liquid propane vaporizes when it is heated or mixed with air. When propane vaporizes its volume increases 270 times its original liquid form. It is these vapours that ignite.
- Propane is heavier than air and can spread and pool considerable distances along the ground and be ignited by a distant heat source, spark or flame.

The Law

- As per the propane Storage and Handling Code, all propane cylinders must be re-qualified every 10 years and cylinders 45lbs or less shall be equipped with a cylinder valve that does not allow the flow of propane until a positive seal is achieved.
- As per the Propane Storage and Handling Code, no propane cylinders may be stored or used inside any structure unless specified in the code, and shall not be stored or installed under any fire escape, stairway, or ramp used as a means of egress from a building. The code specifies that...."A maximum of three 5-lb (single trip or non-refillable) cylinders may be stored in a dwelling unit. "
- As per the Gas Safety Standata G-05-01-B149:
If the owner(s) of a building allows propane barbecues and other appliances to be installed on their outdoor decks and/or balconies, the certified barbecues/appliances, cylinders or other items shall be installed in accordance with the manufacturer's certified instructions and can only be equipped with a maximum of one 20-lb cylinder per installation; the cylinder must be equipped with a OPD (Over Fill Protection Device) and a QCC-1 (Quick Closing Coupling) connection valve; the balcony shall be of open design, not be located below grade, and shall

For more information, please contact the Alberta Emergency Management Agency at (780) 422-9000 (dial 310-000 for toll-free access outside of Edmonton) or email: aema@gov.ab.ca

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be of sufficient size to provide adequate clearance to combustible materials as required by the barbecue manufacturer's instructions; it shall be transported through the building for refill purposes with the QCC-1 closed and equipped with a protective cap; and if transported by elevator must be transferred by freight or service elevators or by a passenger elevator only if no passengers are permitted on the elevator other than the person in control of the cylinder.

- Please contact the Public Safety Division of Alberta Municipal Affairs at 1-866-421-6929 for further information on propane safety.

Safety Tips

- When purchasing propane cylinders, ensure that they are Transport Canada approved.
- When purchasing propane appliances, ensure that they are certified and labelled by a recognized testing agency, such as the Canadian Standards Association (CSA), or Underwriter's Laboratories (UL/ULC).
- Follow the manufacturer's instructions for using and fitting propane appliances to their gas supply.
- Only use propane and propane appliances for their intended purpose and only store enough for your immediate purposes.
- Make yearly cleaning, maintenance and safety inspections of propane cylinders and/or appliances part of your routine. Where required, have them inspected or repaired by a trained professional.
- When using propane appliances, keep them away from anything that can burn, such as items in and around your home, including dry vegetation, deck rails, wood balconies, twigs, etc. and items in or around vehicles.
- When handling and storing propane and propane appliances, keep them away from heat sources or flames, such as lit cigarettes.
- Use and store propane outdoors in a cool, well ventilated area; where possible.
- When using propane inside homes, campers, tents, sheds, and vehicles, keep the area well ventilated.
- To check for leaks, brush a soap and water solution over the suspected area — bubbles will form if there is a leak. If you suspect a leak, leave the area immediately, shut off the gas supply if possible and remove any possible sources of ignition. Call the fire department from a neighbour's home.
- Check the flame on your propane appliance regularly. Appliances that use propane should mostly show a blue flame with yellow tips. If the flame is mostly yellow, this is a sign that the fuel isn't burning completely and may be producing carbon monoxide.
- Exposure to propane can result in nausea and headaches. If either of these symptoms develops, get outside **immediately** and breathe fresh air. Under extreme conditions, exposure to flammable gases can result in death.

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- Always have a fire extinguisher, baking soda and water available to put out an accidental fire.
- Only a certified person may fill a propane cylinder. Ensure they only fill the cylinder to 80% of its capacity. Propane needs room to expand.
- Dispose of damaged or corroded propane cylinders or appliances by giving them to a propane dealer.
- When transporting or storing a propane cylinder, secure it in an upright position with a safety plug (a POL plug) in place and keep the transport area well ventilated to prevent gas build up. A POL plug will prevent gas leakage when the valve is accidentally turned on, and is available through your local dealer.
- Store propane cylinders outdoors, preferably in a locked, detached shed or shaded area. Excess heat may overpressure the cylinder and cause it to release propane from the cylinder relief valve.