

## Propane Guidelines

As many members of the industry are aware, the BC Film Industry experienced two serious issues with propane and propane fired heaters in the fall of 2010. Workers experienced near misses and serious injuries as a result of these incidents.

What many industry workers may not know is that in 1999, a Vancouver film industry worker died at the age of 39, of carbon monoxide poisoning, leaving behind a wife and two small children. His death was related to the use of a propane-fired heater.

This bulletin is intended to alert industry members to the hazards associated with the use of propane and propane-fired heaters, and to outline safe work practices. Training is available for workers who work with or around propane-fired heaters.

Call Marty Clausen at 604.733.4682 to book a group session on site.

### Propane Heaters on Set or Location

#### **Hazard Warning**

Improper installation or use of propane fired heaters can result in death, serious injury and property loss or damage from fire, explosion, burns, asphyxiation, and carbon monoxide poisoning.

#### **Key Items to Remember**

Consult the manufacturer's recommendations regarding minimum distances to maintain from combustible materials and all workers;

ONLY people who have read the manufacturer's instructions should assemble, light, adjust or operate propane heaters; propane-fired heaters produce carbon monoxide and require adequate ventilation;

Propane-fired heaters must be inspected before every use by 'qualified person'; this means someone who is familiar with the manufacturer's instructions and has attended a propane safety awareness course. The heaters must also be re-certified at least annually by a registered inspection facility.

PLEASE read the following for more detailed information.

## Lighting and Use of Propane-fired Heaters

ONLY people who have read the manufacturer's instructions should assemble, light, adjust or operate propane heaters. Manufacturer's instructions should be provided with every rental. If they have not been provided, they can be accessed online.

Information on how to light the heaters is specifically NOT included in this information, as anyone assembling, lighting, adjusting or operating propane heaters is required to read and act according to the manufacturers instructions.

### **Proper placement of Propane-fired Heaters**

Never use the heater in spaces which may or do contain flammable or combustible materials, including but not limited to solvents, paint thinner, sprays such as hair spray, liquids having flammable vapours or dust particles.

Keep combustibles such as building materials, paper, fabric including table cloths, tent flaps etc. a minimum of 1.37 metres (4 feet, 6 inches) away from the heater. People and costumes should also be kept a minimum of 1.37 metres (4 feet, 6 inches) away from the heater. DO NOT stand close to the heater to warm up!

When using a 50,000 btu heater (a common size used by the industry) ensure that the heater is 1.37 metres (4 feet, 6 inches) away from the top and sides of the tent or any other potentially combustible surface or material. Different sized heaters will have different space requirements. Please check the manufacturer's instructions as every heater is different.

Heaters must be placed on a firm, flat surface. Heaters must be equipped with a tip-over switch. Some of the new heaters have low oxygen sensors built in. The propane tank should be located at least six feet away from the heater and **MUST** be restrained or secured to prevent accidental tip-overs. Small tanks are generally placed in milk crates.

Please note: large tanks also need to be secured.

Tents should have been treated with a fire retardant. Wall tents sold in Canada must be treated with fire retardant rated to CPA1-84. All tents used in the industry should be checked for a label indicating their fire retardant status.

Do NOT use propane-fired heaters in a tightly enclosed area. These heaters produce carbon monoxide. **Adequate ventilation is required.** Two openings directly to the outdoors **MUST** be provided, one high and one low, on opposite sides of the area to be heated. Each opening must be at least 7.72 centimetres (3 inches) for every 1000 btu. Therefore, for one 50,000 btu heater, two openings of at least .093 square metres (1 square foot) at each end are required.

Different sized heaters will have different requirements.

Please check the manufacturer's instructions as every heater is different. NEVER close the tent flaps due to the risk of carbon monoxide poisoning.

### **Maintenance and Inspection of Propane-fired Heaters**

Heaters must be inspected before EACH use. Inspection criteria are found in the manufacturer's instructions. In addition, each heater must be inspected at least annually by a qualified service person. Verify the current inspection decal is attached and legible before using any propane fired heaters.

If there is any evidence of damage or a piece of equipment doesn't function properly, clearly mark it out of service and return it for repair by a qualified gas fitter.

### **Rental of Propane-fired Heaters**

When renting propane equipment (heaters and tanks) be sure to get information from the rental company with the manufacturer's instructions regarding safe use and operational procedures to follow. Ensure the equipment you are renting is approved for the intended use.

### **Transportation of Portable Propane Tanks**

- During transportation, ensure that the tank is secured in an upright position, with the cylinder valve closed and plugged or capped, in a well ventilated space in the vehicle. Maximum 18 kg (40 pound) size cylinder in an 'enclosed' vehicle. Up to 45.4 kg (100 pound) cylinder in 'open' vehicle (Consult with Transport Canada regulations on quantity).
- Ensure that your propane supplier checks the tank for dents, damage, rust, leaks and date
- Never store a propane tank in a vehicle, or leave it in a vehicle for an extended period of time
- When reconnecting a refilled propane tank, conduct a leak test on all connections before firing up using leak detection solution or a soapy solution, usually 50% soap and 50% water, to detect leaks.

### **Filling Procedures for Portable Propane Tanks**

These procedures follow the regulations set out by the BC Safety Authority (BCSA).

- Any cylinders requested to be removed by the delivery company from equipment for filling will be placed next to the equipment reconnection is by Unit staff.
- When reconnecting a refilled propane tank, conduct a leak test on all connections before firing up. Use a soapy solution, usually 50% water and 50% soap, to detect leaks.

A Unit employee (or TCP traffic control person, depending on location) must be supplied to perform spotting or flagging duties:

- Anytime a hose needs to be extended across an active driveway/lot. The production worker will need to monitor the hose during refueling.
- When equipment is filled on a public roadway

Be sure whoever orders the delivery is aware of the policies above and has someone present to be sure they are being followed. (i.e. Transport, Locations, Caterers).

### **The Dangers of Carbon Monoxide**

Propane produces carbon monoxide. Sometimes called “the silent killer”- it’s a non-irritating, colourless, odourless, tasteless gas that is produced by burning a carbon fuel such as propane, natural gas, wood, charcoal, alcohol, kerosene, or gasoline. When these fuels are burned in an area that is properly ventilated, the risk of carbon monoxide poisoning is low, but it is still important for every one to know the signs of the presence of carbon monoxide and what to do if they suspect it is present.

Danger signs of carbon monoxide exposure include:

- Flu-like symptoms such as headache, dizziness, drowsiness, fatigue, confusion, nausea or vomiting and in very high concentrations even death.
- Discoloration or soot build-up on heating appliances

Carbon monoxide monitoring should be used when using propane heaters.

Monitors are available for less than \$50 at most hardware stores.