

Heaters

List location of temporary heaters on site.

Explain dangers

Temporary heaters are dangerous if you don't control the risks of explosion, fire, carbon monoxide (CO) poisoning, and lack of fresh air.

Temporary heaters can run on:

- Electricity
- Liquids such as fuel oil or kerosene
- Propane
- Natural gas.

Many of the hazards of using temporary heaters depend on how they're powered.

- **Electric heaters** are not as common as fuel- or gas-fired heaters. They're used where heated air must be free of combustion by-products such as carbon monoxide (CO) and carbon dioxide (CO₂). An electric heater is useful when working in a closed space with limited fresh air.
- **Liquid fuel heaters** (i.e., oil and kerosene) provide an economical source of heat. But you need a large storage tank on site for a constant supply of fuel.

Some liquid-fuelled heaters release exhaust fumes with an oily smell. This can be unpleasant for workers. A solution is to vent the combustion by-products outdoors. This is sometimes done to heat the air over new concrete in winter.

- **Propane and natural gas heaters** provide an economical supply of heat. The equipment is lightweight and easy to move around on site. However, both gases are highly flammable and explosive. You need to take precautions when storing, handling, or using these gases.

Fuel-fired equipment is a source of CO. Even in small doses, CO can kill you. It's a clear, colourless gas that you can't smell or taste. Ventilation is necessary when using heaters powered by liquid fuel or compressed gas.

Identify controls

- Choose an indirect-fired heater instead of a direct-fired heater when you want to heat an enclosed space.
 - An indirect-fired heater vents combustion by-products outdoors while ducting heated air indoors.
 - A direct-fired heater (such as an open-flame or closed-flame heater) releases combustion by-products into the heated area.
- Only workers holding an ROT certificate may operate a propane, gas, or oil heater. However, anyone can operate an electric heater.
- Place the heater on a firm, level surface to prevent tip over and do not block the openings used for ventilation.
- If a compressed gas cylinder is connected to a heater, it must be at least 3 m (10 ft) away and secured to prevent movement.
- Keep the flame end of the heater pointed away from the gas cylinder and away from flammable materials. The heat from a burner can ignite materials well past the burner's end.
- Make sure the heater has a supply of fresh air to operate safely and efficiently, and to prevent buildup of CO.
- Test heated areas for the presence of CO.

Demonstrate

Show your crew the location of temporary heaters on site and do an inspection.

Review the signs and symptoms of CO poisoning with the crew. The first signs are headache and fatigue. More exposure can rapidly lead to loss of consciousness, arrested breathing, heart failure, and death.