

SHROPSHIRE FIRE AND RESCUE SERVICE

FIRE SAFETY ADVICE SHEET

SAFE USE OF LIQUID PETROLEUM GAS (LPG) CYLINDERS

INTRODUCTION

This advice sheet deals with small scale users of LPG cylinders and offers advice on good practice when dealing with LPG cylinders. It does not apply to bulk storage tanks. The term 'cylinders' within this advice sheet, includes disposable cartridges.

HAZARDS

LP Gas (propane or butane) is a colourless liquid which readily evaporates into gas. It is odourless, although it will normally have an odour added to help detect leaks. It can burn or explode when it is mixed with air and meets an ignition source. It is heavier than air and tends to sink towards the ground. It can flow long distances along the ground and can collect in drains, gullies and cellars.

LPG is supplied in pressurised cylinders to keep it liquefied. The cylinders are strong and not easily damaged, although the valve assembly can be vulnerable to careless handling. Leaks can occur from valves and pipework connections, most likely as a gas. Liquid LPG can cause cold burns to the skin.

PRECAUTIONS

Fixed cylinder installations

If one or more cylinders are fixed in position for connection to an appliance, the installer must ensure that they are located in a safe place and have all the necessary safety devices to protect hoses, pipework and appliances attached to them. However, it is important to look after the installation.

In particular, it should be ensured that:-

- Cylinders remain secured in position and are not tampered with
- Where a maintenance contract exists with the LPG supplier or other reputable company, any work required is carried out at specified intervals. If the equipment is leased, owners keep to the lease terms with regard to maintenance. All paperwork relating to the installation should be kept in a safe place for reference

- Any work on the installation is only carried out by suitably trained and competent persons
- Operating instructions and emergency actions are followed carefully by all persons who need to know
- Modifications, which may affect the safety of the installation, such as altering fire walls, erecting sheds or fences or installing electrical equipment near to cylinders should not be carried out without prior advice from the supplier
- NO SMOKING signs and other safety notices are maintained

Cylinders not fixed in position

- Cylinders are kept in a safe, well ventilated place, preferably in the open air and away from occupied buildings, boundaries and sources of ignition. Cylinders should be properly secured and kept upright

GENERAL

- Cylinders damaged in any way should be returned to the supplier as soon as possible.
- Cylinders should be changed in the open air.

When changing gas cylinders-:

- Check that the replacement cylinder is the correct type for the appliance
- Extinguish/remove any naked flames or other ignition sources
- Ensure the valve on the empty cylinder is closed before disconnecting the heater
- Do not open the valve on the replacement cylinder until the connection to the heater is secure
- Look for any gas leaks. Suspected leaks can usually be detected by smell or by 'frosting' at the point of escape. If in doubt, check by applying a soapy water solution around all the suspect joint, fittings and pipework.

Do not test for leaks using a naked flame. If the leakage cannot be stopped, leave the cylinder in the open air in a safe place remote from any drains or potential ignition sources, taking care to keep the point of leakage uppermost

- Store any spare cylinders upright and outside where possible. Never store them in basements, near drains, under stairs or in cupboards containing electrical equipment

In all cases

- Rubbish and other combustible materials should be kept well away from cylinders. Weeds and grass in the vicinity should be cut down. Chlorate based weed killers should not be used as they can be a fire hazard.
- Electrical equipment, vehicles, bonfires, barbeques or other sources of ignition should not be permitted near cylinders
- People not involved with the installation should be kept well away, especially children
- Pipework and flexible hoses from cylinders to appliances should be protected against accidental damage and be properly supported. The route of any underground piping should be remembered in order to prevent damage to pipework from digging etc
- Any equipment failure or damage should be reported to the supplier immediately. They will provide advice on what to do.

Deliveries

- Where cylinders are delivered, make sure the correct number and type are ordered. Do not order too many as there may not be adequate suitable space to store them
- The parking area for the delivery vehicle should, where possible, be kept clear.
- Keep away from the vehicle whilst cylinders are being unloaded

IF A FIRE OR LEAK OCCURS

- Turn off all LPG appliances and extinguish naked flames (if safe to do so)
- Evacuate the premises to a safe place well away from the installation
- Call the Fire & Rescue Service by dialling 999
- If the leak is indoors, open all doors and windows
- Do not turn electrical equipment on or off as this may cause a spark

FIRE FIGHTING

Do not attempt to extinguish a fire involving LPG; leave it to the Fire & Rescue Service. Overheated cylinders can explode. Fires involving grass, rubbish etc can be tackled with a fire extinguisher or hose reel (if safe to do so). However, if

the fire is close to cylinders or pipework, leave it and call the Fire & Rescue Service

Further information and advice can be obtained from The LP Gas Association at www.lpga.co.uk

Or for general fire safety matters, Shropshire Fire and Rescue Service can be reached on **01743 260260** or via our web site at **www.shropshirefire.gov.uk**