



Small-scale use of LPG in cylinders

Chemical Sheet No 5

Introduction

This guidance is issued by the Health and Safety Executive (HSE), and is aimed at small-scale users of LPG in cylinders. For the purposes of this sheet, the term 'cylinders' includes disposable cartridges.

It does not apply to LPG from bulk tanks. For guidance on this topic, you should consult the HSE information sheet *Use of LPG in small bulk tanks*.

Hazards

LPG (propane or butane) is a colourless liquid which readily evaporates into a gas. It has no smell, although it will normally have an odour added to help detect leaks.

When mixed with air, the gas can burn or explode when it meets a source of ignition. It is heavier than air, so it tends to sink towards the ground. LPG can flow for 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 at the top can be vulnerable to impact. Leaks can occur from valves and pipe connections, most likely as a gas. Liquid LPG can cause cold burns to the skin.

Precautions

Fixed cylinder installations

If you have one or more cylinders 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 the hoses, pipework and appliances attached to them. However you need to look after the installation. In particular you should take the following precautions:

- ensure the cylinders are kept secured in position and are not tampered with;
- if you have a maintenance contract (with the LPG supplier or other reputable company), make sure they come at the specified intervals, and that any work required is done. If the equipment is leased, make sure the owner keeps to the lease terms regarding maintenance. Keep all the paperwork relating to the installation for reference;

- don't let anyone work on the installation unless they are suitably trained and competent to do the work;
- read the operating instructions and the emergency actions, and ensure that everyone who needs to, knows them and follows them carefully;
- don't carry out any modifications which may affect the safety of the installation, such as altering walls or erecting sheds or fences, or installing electrical equipment near the cylinders. If in doubt, ask your LPG supplier for advice;
- make sure that 'no smoking' signs and any other safety notices are maintained.

Cylinders not fixed in position

For cylinders not fixed in position, you should:

- keep all cylinders in a safe, well-ventilated place, preferably in the open air, and away from occupied buildings, boundaries and sources of ignition and of heat;
- make sure the cylinders are properly secured and are kept upright.

For all installations

Whether the cylinders are fixed in position or not, there are a number of precautions to take. You should:

- keep rubbish and anything combustible well away from the cylinders, and keep weeds and grass in the vicinity cut down. Don't use a chlorate-based weedkiller, as it can be a fire hazard;
- not allow any electrical equipment, vehicles, bonfires, barbecues or other sources of ignition near the cylinders. Exceptions are items purpose-designed to use LPG, such as gas-fired barbecues;
- not smoke when changing cylinders;
- keep people not involved with the installation well away from it, particularly children;
- keep vehicles well away from the installation;
- make sure that the pipework or flexible hose from the cylinders to the point of use is protected

against accidental damage, and is properly supported. For underground piping, make sure you know the route it takes, and avoid putting anything in the ground which may damage the pipework;

- report any equipment failure or damage to your supplier without delay, and ask them for advice about what you should do.

Deliveries

If you have cylinders delivered, make sure you order the right number and type of replacements. Don't order more than you need, as you may not have space to keep them safely.

On a delivery day, make sure the parking area is clear for the delivery vehicle.

Keep away from the vehicle while the cylinders are being handled.

If a fire or leak occurs

In the event of a fire or a leak, take the following action:

- Dial 999 to call the fire brigade. Tell them LPG cylinders are on the premises.
- Tell everybody to leave the premises and go to a safe place well away from the installation. If you have a fire alarm, activate it.
- If it is safe to do so, turn off all the LPG appliances.
- If you think you have an LPG leak at a cylinder or the associated pipework, call the LPG supplier so they can come and make safe. If an LPG appliance is leaking or is not working properly, ask a CORGI-registered gas fitter to check it.
- If the leak is indoors, open all the doors and windows.
- Do not switch any lights or electrical equipment on or off, as this may cause a spark.
- A leak in the pipework can be stopped by closing the valve on the cylinder or on the piping manifold, but only do this if you can approach the cylinders safely.

Fire fighting

Don't try to put out a fire involving LPG - leave it to the fire brigade. It is safer to evacuate everyone from the area. An overheated cylinder can explode.

If you have fire-fighting equipment for use on paper, wood, rubbish, etc, make sure that you know how to use it, and that it is maintained regularly. Don't try to use it on burning LPG.

A fire involving grass, rubbish, etc, can be tackled with a fire extinguisher or hose reel if it is safe to do so. Always call the fire brigade first. If the fire is near the cylinders or pipework, or if you can't put it out quickly - leave it.

Further information

For general advice on LPG safety, ask the enforcing authority for your premises. For most domestic premises this is the Health and Safety Executive. For commercial premises (such as offices, hotels and leisure/holiday facilities) it is the environmental health department of the local authority. If in doubt contact the local office of the Health and Safety Executive.

For queries on the use of LPG cylinders, ask your LPG supplier.

For advice on fire precautions, ask the fire prevention officer of your local fire brigade.

Detailed guidance is available in the LP Gas Association publication *Storage of full and empty LPG cylinders and cartridges* 3rd edition LPGA code of practice no 7 (1998).

The Association's address is:
Pavilion 16, Headlands Business Park, Salisbury Rd,
Ringwood, Hampshire BH24 3PB

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This leaflet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

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