



Use of LPG in small bulk tanks

Chemical Sheet No 4

Introduction

This guidance is issued by the Health and Safety Executive (HSE) and is aimed at small-scale users of LPG in bulk tanks.

It does not apply to LPG cylinders or cartridges. For guidance on this topic, you should consult the HSE information sheet *Small-scale use of LPG in cylinders*.

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 stored in pressurised tanks to keep it liquefied. The tanks can be installed above or below ground. They are strong and not easily damaged, but liquid or gas leaks can occur from valves and pipe connections. The liquid can cause cold burns to the skin.

Precautions

The installer must ensure that LPG tanks are located in a safe place and have all the necessary safety devices to protect the tanks, pipework and any LPG appliances attached to them. However you need to look after the installation. In particular you should take the following precautions:

- keep rubbish and anything combustible well away from the tanks, and keep weeds and grass in the vicinity cut down. Don't use a chlorate-based weedkiller, as it can be a fire hazard;
- keep any security fencing provided for the tanks in good condition, and keep the gate(s) locked shut. If there is no fencing, keep the tank valve cover locked;
- ensure there are adequate arrangements for inspection and maintenance of the tank and its equipment. This is normally arranged by your LPG supplier. 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;
- keep people not involved with the installation well away from it, particularly children;
- keep vehicles well away from the installation;
- 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 tank. Ask your supplier what the separation distances are for your installation, and keep to them. Don't paint a tank a different colour from the original, as this may increase the amount of heat it absorbs from the sun;
- don't plant any trees or shrubs near underground tanks, or put in any poles or posts that might damage the tank;
- don't let anyone smoke or have any electrical equipment, vehicles, bonfires, barbecues or other sources of ignition near the installation. Make sure the 'no smoking' signs and any other notices are maintained;
- make sure that any above-ground pipework from the tank 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

Make sure the tanker parking area is clear on a delivery day.

Keep people away from the tank and the tanker while the transfer is taking place. Don't let them cross any barriers put up around the vehicle or distract the driver from the operation.

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 an LPG tank is 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 tank 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 LPG piping can be stopped by closing the manual outlet valve on the tank, but only do this if you can approach the valve safely. If the tank has a remotely operated shut-off valve, operate the control to close the valve if it is safe to do so.

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 tank 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 tank or its 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 your installation, ask the LPG supplier or equipment owner/supplier. The LPG supplier should provide you with a 24-hour contact number for emergencies.

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 *Bulk LPG storage at fixed installations* LPGA code of practice no 1:

Part 1: Design, installation and operation of vessels located above ground

Part 2: Small bulk installations for domestic purposes

Part 4: Buried/mounded LPG vessels

The Association's address is:

Pavilion 16, Headlands Business Park, Salisbury Rd, Ringwood, Hampshire BH24 3PB

HSE priced and free publications are available by mail order from HSE Books, PO Box 1999, Sudbury, Suffolk CO10 2WA Tel: 01787 881165 Fax: 01787 313995

HSE priced publications are also available from good booksellers.

For other enquiries ring HSE's InfoLine Tel: 0541

545500, or write to HSE's Information Centre, Broad Lane, Sheffield S3 7HQ

HSE home page on the World Wide Web:

<http://www.open.gov.uk/hse/hsehome.htm>

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

This publication may be freely reproduced, except for advertising, endorsement or commercial purposes. The information is current at 5/99. Please acknowledge the source as HSE.