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Introduction

LPG, Butane and Propane is widely used in farming and the rural industry. The industry serves more than 5 million customers and provides energy for a vast range of agricultural, industrial, commercial, domestic and leisure applications. It is also used as a fuel for road vehicles and for forklift trucks.

In agriculture it is used for grain drying, poultry rearing and greenhouse heating. LPG is supplied in two ways: cylinders, ranging in capacity from 3 to 47kg and bulk tanks of 500kg and upward.

As with any fuel, safe operation depends on many things and the LPG industry strives to meet the highest standards. Whilst the business may be heavily regulated, users have a part to play in ensuring safety.

A few basic rules must always be observed:
- always follow gas supplier and equipment manufacturers instructions;
- check equipment regularly for damage or wear and replace as necessary;
- always use competent people to install and maintain LPG systems and appliances. In some situations these will need to be CORGI registered operatives. Don’t be tempted to do DIY or use a “friend”;
- move, position and store cylinders carefully. Return empty cylinders to the supplier: don’t let them build up. Remember cylinders remain the suppliers property and only they can safely and lawfully fill them;
- observe all the terms and conditions in the contract for bulk tanks hired from LPG companies;
- be aware of the statutory health and safety duties relating to bulk tanks (LPG companies take on most of these responsibilities for tanks hired from them). Never work on them, move them or build near them without carrying out a risk assessment and contacting the supplier;
- if in doubt ask your supplier.
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. It can burn or explode when it is mixed with air and it meets a source of ignition. It is heavier than air, so it tends to sink towards the ground. It 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. LPG liquid can cause cold burns to the skin.
Precautions

a) 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:

• 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 do any modifications which may affect the safety of the installation, such as altering fire 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.

b) Cylinders not fixed in position
• 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.

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

• keep rubbish and anything combustible well away from the tanks, and keep weeds and grass in the vicinity cut down. Don't use chlorate-based weed-killer, as it can be a fire hazard.
• keep any security fence provided for the tanks in good condition, and keep the gate(s) locked shut. If there is no fence, 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 do any modifications which may affect the safety of the installation, such as altering fire 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.
• for underground tanks, don't plant any trees or shrubs near them, or put in any poles or posts that might damage the tank.
• don't let anyone smoke or 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 accident 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.

**d) In all cases:**
• keep rubbish and anything combustible well away, and keep weeds and grass in the vicinity cut down. Don't use chlorate-based weedkiller, as it can be a fire hazard.
• don't let anyone have 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. Do 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

a) Cylinders
- 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 the delivery day, make sure the parking area is clear for the delivery vehicle.
- Keep away from the vehicle while the cylinders are being handled.

b) Bulk Tanks
- Make sure the tanker parking area is clear on the delivery day.
- Keep people away from the tank and the tanker while the transfer is taking place, and don't let them cross any barriers put up around the vehicle or distract the driver from the operation.
Return of Cylinders

- Local LPG suppliers and dealers can be found in the Yellow Pages under Bottle Gas or Gas Bottles or Gas Suppliers.
- LPG cylinders remain the property of the gas company and are refilled by exchange.

**IF A CYLINDER IS NO LONGER NEEDED IT SHOULD BE RETURNED TO A LOCAL DEALER OF THE COMPANY OWNING THE CYLINDER. IF YOU DO NOT KNOW WHICH COMPANY OWNS THE CYLINDER CLICK ON THE GUIDANCE TABLE BELOW.**
If Fire or Leak Occurs

1) Dial 999 to call the fire brigade. Tell them LPG cylinders are on the premises.
2) 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.
3) If it is safe to do so, turn off all LPG appliances.
4) If you think that you have an LPG leak, or that an LPG appliance is not working properly, call the LPG supplier so that they can come and make safe.
5) If the leak is indoors, open all doors and windows.
6) Do not switch any lights or electrical equipment on or off, as this may cause a spark.
7) A leak in 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 or 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 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 on bulk LPG storage is available LPGA Code of Practice 1 Part 1, Bulk LPG Storage at Fixed Installations: Design Installation and Operation of Vessels Located above Ground.

Detailed guidance on storage is available LPGA Code of Practice 7, Storage of Full and Empty LPG Cylinders and Cartridges.