

August 2018

LPG in industry

Many businesses use liquid petroleum gas (LPG) because it is convenient and efficient, but you still need to make sure your LPG appliances and installations are safe.

LPG is a highly flammable gas, and is dangerous if not used safely.

'You' - the PCBU

A PCBU is a person conducting a business or undertaking. A PCBU can be a person (eg if they are a sole-trader or self employed) however it usually refers to a business entity such as a company or an undertaking such as a not-for-profit organisation. This guide is for PCBUs who use or store LPG in their workplace. It is designed to help them meet their obligations under the Health and Safety at Work (Hazardous Substances Regulations 2017 ('the Regulations')).

In this guide, 'you' means the PCBU.

More information on PCBUs and other duty holders in the workplace and their duties is available on the WorkSafe website: worksafe.govt.nz

What are the dangers of LPG?

- If LPG leaks, it will evaporate and form a large cloud of gas, which will settle in low spots such as drains or basements. This can cause a fire or suffocation hazard.
- LPG is highly flammable and could cause a fire if ignited.
- LPG can cause cold burns if in contact with the skin, or act as an asphyxiant (meaning you won't be able to breathe) if present in high concentrations.

What does the law say?

Your obligations around LPG safety

The Regulations set out specific controls (rules) for safely using and storing LPG.

If you use LPG you must:



have a 2 kg dry chemical **fire extinguisher**¹ on hand if there is more than 50 kg of LPG present on site.



have **signs** showing LPG is present if you have more than 50 kg stored inside, or more than 250 kg outdoors.

Signs must be located correctly, easy to understand, made from durable materials and show that LPG is flammable.



have a **first aid kit** available and trained first aiders on site in case of an emergency.

For more information on deciding how many trained first aiders you need, and what equipment and facilities you need to provide your workers, see our fact sheet *First aid*.



if you have more than 300 kg of LPG in your workplace, you must have an **emergency response plan**. Make sure you test your plan at least once a year to check if it's effective.

Some things your emergency response plan should cover include all the potential emergencies that may arise when using LPG, what to do in an emergency and how to contact emergency services.



make sure that all cylinders are correctly **labelled** to show that they contain LPG.



make sure that everyone in the workplace has the **information, training, instruction or supervision** they need to use LPG safely. This means they need to:

- be aware of the hazards
- know what control measures are in place to reduce the risks caused by LPG
- know how to safely use, handle and store of LPG, and
- know what to do in an emergency.

Some controls such as the requirement to train your workers, or labelling your substances apply to all hazardous substances. Other controls vary depending on the amount of LPG you hold in your workplace. Use the [Hazardous Substances Calculator](#) to help you determine what controls you need to apply.

¹ If there is no fire extinguisher on site, you must have a hydrant system with a 20 mm hose with a spray nozzle, which is long enough so that the water can reach all sides of the LPG containers.

Storing LPG

How much LPG can I store?

Commercial premises (eg hotels, restaurants, shops or offices) that occupy a **standalone building** must not have more 10 kg of LPG stored inside for every 10 square metres of indoor floor area, up to a maximum of 100 kg.

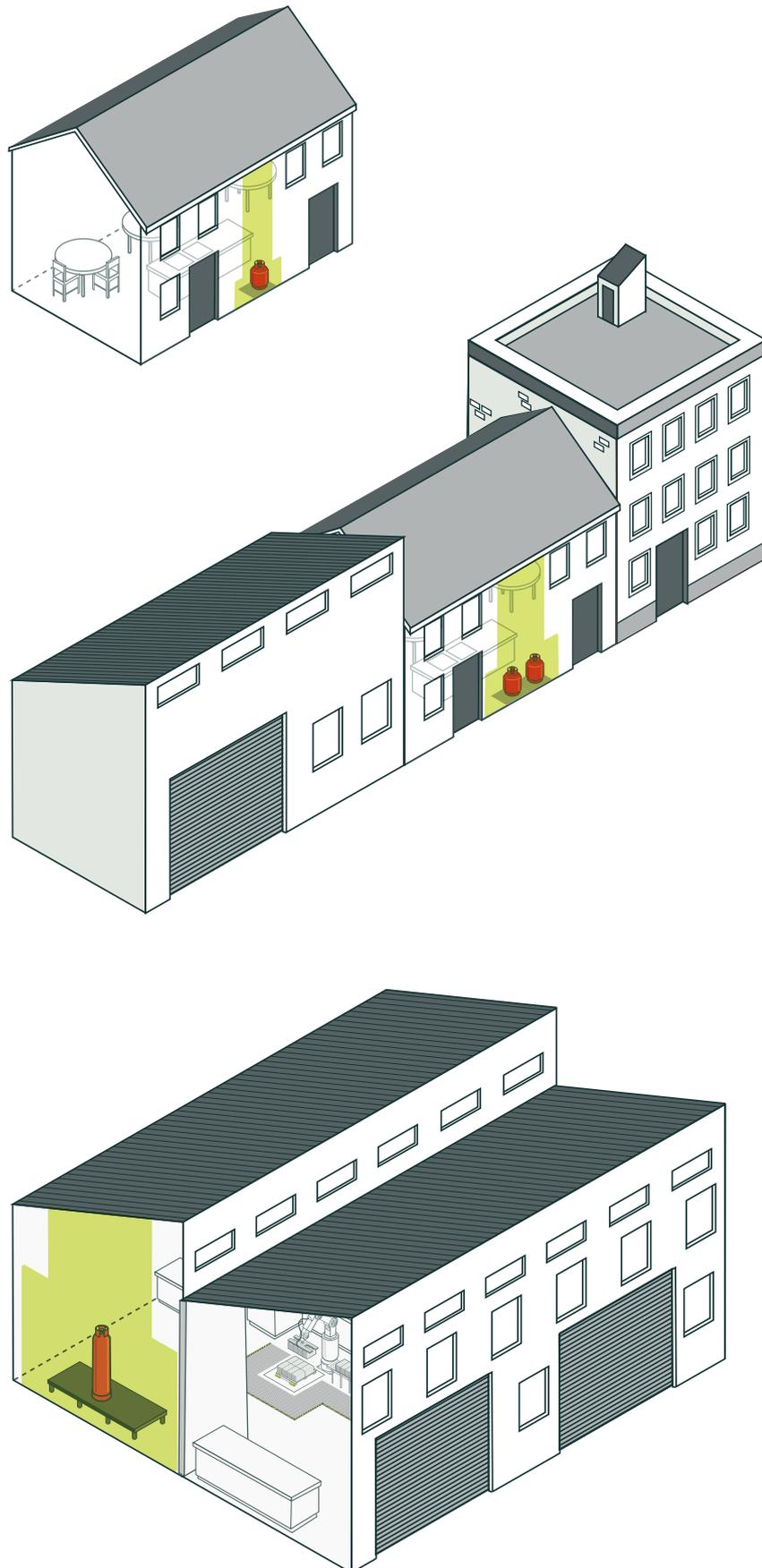
Each cylinder must be no more than 10 kg in volume.

Where the **building is attached to another occupied building** a maximum of 20 kg of LPG can be located indoors irrespective of the floor area (eg two 9 kg cylinders).

If you have more than 100 kg of LPG on site, this must be stored outside.

A **factory or warehouse** must not have more than 45 kg of LPG per 50 square metres of indoor floor area, up to a maximum of 180 kg and with a maximum cylinder size of 45 kg.

Cylinders attached to a forklift truck are not counted.



Safe storage practices

- Keep your cylinders secured from unauthorised persons. You can secure your cylinders in a cage, within a fenced perimeter, or in a way that the cylinders can only be disconnected by using a tool such as a spanner.
- Keep combustible materials such as weeds, foliage, and rubbish away from the cylinders.
- Keep cylinders away from ignition sources, heat sources and materials that could catch fire.
- Don't smoke near the cylinder storage area.
- If you're storing LPG indoors, make sure the storage area is well ventilated.
- Keep your cylinder in a vertical position, unless it has been specifically designed to be used otherwise. Secure tall cylinders to prevent them from falling over.
- Make sure that emergency services have easy access in case of a fire or emergency.

If you have more than 100 kg of LPG at your workplace, you'll need to apply for a **location compliance certificate** or have a valid compliance plaque which certifies that your site is safely managed, according to the rules.

Ask a compliance certifier to visit your workplace. A location compliance certificate lasts for one year but this can be extended up to a maximum of three years. Talk to your compliance certifier about this extension.

You can find a list of registered compliance certifiers in your area on our [website](#)

You don't need a current location compliance certificate if:

- you have between 100 and 300 kg of LPG on site, and
- you've been granted a previous location certificate, and
- your supplier has performed a check of your installation, and they have issued you with a compliance plaque. Check with your supplier that they provide this service.

If you plan to have over 100 kg of LPG at a new site, you must notify WorkSafe at least 5 working days before to let us know you'll be storing and using LPG at your workplace. You must let us know the street address and the maximum quantity of LPG your workplace is designed to hold.

To notify WorkSafe, complete the *Notification of commissioning of hazardous substance location* form available on our [website](#)

Installing LPG

All LPG appliances (apart from portable appliances which are connected to their own cylinder supply) including the pipes and hoses must be installed by a licensed or registered gasfitter. Ask the gasfitter for a certificate of compliance for the installation.

The gasfitter should provide you with instructions on how to use the appliance safely.

Filling your cylinder

Only an approved filler or LPG Association (LPGA) filler can fill LPG cylinders.

After filling it's a good idea to use the 'soapy water' test to check for leaks.

After connecting the cylinder to the installation apply soapy water to the connections and turn on the cylinder. If bubbles appear, you have a leak.

Important do's and don'ts

Make sure the appliances you use are safe by following these basic rules.

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-  Keep your appliances and fittings regularly serviced to ensure they are in good condition. Ask your supplier to confirm how often this is recommended.

 -  Check that you have the right connections for your cylinder.

 -  Have your cylinders tested every 10 years. Tests should be done by an authorised cylinder test station.

 -  Make sure empty cylinders are clearly labelled.

 -  Keep valves and fittings clean. Close the cylinder valves when not in use.

 -  Never use damaged or corroded cylinders - this can lead to leaks and fire.

 -  Don't drop, drag or roll LPG cylinders, they contain vapour and are potentially dangerous.

 -  Don't keep cylinders in a horizontal position. Make sure the cylinders are upright with the valve on top.

 -  Don't use your cylinders for any purpose other than storing LPG.
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