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What to know about gas

Gas equipment can be dangerous if the user does not know how to properly handle, store and maintain it. However, if the user works sensibly with it gas is a useful power element when participating in outdoor activities where you might need a gas stove, or light, for example.

There are a variety of gas powered products that consumers can use for their outdoor activities, ranging from gas-fired refrigerators and heaters, to braais and stoves, to lighting equipment.

Liquid Petroleum Gas (LPG, or gas as it is commonly called) is stored in its liquid state. It becomes a gas when pressure is released.

The temperature around the canister affects the output pressure and performance – the heat of the flame and the length of time that it will burn – and as the temperature drops, so does the pressure. If your customer will be using the product in temperatures below freezing point, advise them to keep the canister warm when it's not being used, for example with a sleeping bag wrapped around it, and where possible it should not be set on a cold surface.

Typically these gases are used in camping equipment:

- Propane: a by-product of petroleum refining and natural gas processing. It will vaporise down to -40°C , which means it is ideal to use in all temperatures. It has a higher pressure and lower boiling point than butane, which helps to maintain pressure over the canister's life and helps with cold weather performance.
- Butane: a gaseous component of natural gas. It has a lower pressure than ISO butane and is hard to turn to gas below 4°C , which means it is not ideal to use in cold temperatures.
 - o ISO butane: one of two forms of butane.

The molecular structure and alignment of carbon atoms allows it to perform well in cold weather. It burns cleaner to help reduce jet clogs.

The mixture of the different gases inside a cylinder or cartridge affects the heat of the flame and length of burn time, but the exact mixture of gas is different for each manufacturer. In high altitude and extreme cold environments, however, consumers are recommended to use canisters with a higher ISO butane mix.

Butane is the cheaper of the gases, but it also delivers a lower quality of performance,

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while ISO butane is the most expensive.

Gas cartridges and cylinders

Cylinders are heavy and more suited to campers who will be driving somewhere, for example, while cartridges are also suited for those who will be carrying them, for example hikers.

Gas is available in disposable cartridges or stored in cylinders that can be refilled. Cartridges are not refillable.

- A pierceable cartridge is punctured by a hollow spike when attached to the equipment and this releases the gas. Once it has been attached it can't be removed without gas escaping.

Though not the norm, some pierceable cartridges are designed to mimic a threaded cartridge by making use of a non-return valve system that allows it to be removed safely without gas leakage.

- An integral valve cartridge can be removed from the product, because the valve reseals the cartridge, making it ideal for short periods of usage. Most have screw fittings.

There are also manufacturer-specific types of cartridges that have clamps, screw on, etc.

- Cylinders are bigger, refillable and use a regulator to regulate the gas pressure. For the equipment to work correctly, most re-

quire the gas to be at a specific pressure and a regulator ensures that the gas pressure is correct. It is either attached to the cylinder or to the appliance.

Cylinders should not be refilled too far – around 80% full is ideal. If the cylinder is too full it will release too much gas, which will burn with a yellow flame. To find out if the cylinder is too full, weigh it after filling. It should not weigh more than the cylinder's weight (found on the foot ring) added to the allowed gas weight for the cylinder size – e.g. a 7 cylinder can hold 3.18kg of gas.

Safety and storing

Impress upon your customer the importance of ventilation when working with gas equipment, especially if the product will be on for a long time. Even if there is no risk of igniting the gas in the air, gas uses oxygen as it burns and therefore it will eventually deplete the breathable air if there is not enough ventilation.

Remind your customers that with gas equipment they need to ensure that the products are operating safely.

- When lighting the gas, open the gas canister and light the gas before placing a pot on top, for example. It can happen that a new canister has some liquid in the valve and it can result in a sudden flame flare if the cooking cup is attached to the base when the stove is lit – not that dangerous, but it can be very startling to the unsuspecting user.
- Users need to make sure that all the connections are secure and check for leaks. Butane and propane are odourless, but manufacturers add a smell so that leaks are noticed.
- Hoses need to be checked for signs of deterioration, for example cracking, and they should be replaced at least every five years.
- Always make sure that the cylinder is turned off when the user disconnects it.
- If the user finds a leaking pierceable cartridge, they should allow it to empty fully in a well-ventilated area. They should not attempt to disconnect or reconnect it until it has finished emptying.

There are a few basic points to keep in mind when storing gas cylinders and cartridges:

- Do not place near any source of heat or element that could ignite the gas inside.
- Keep upright, unless designed to be used flat. Flaring takes place when the liquid component of the gas escapes the bottle and ignites. Some stoves and ap- **To p32**



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- pliances are designed to handle this.
- Store away from damp, dirt, dust or elements that could damage the container or valves.
- Avoid storing a cylinder in a tent or closed area overnight.
When moving a cylinder, keep the following in mind:
 - Keep the valve protection in place.
 - Do not pull by the valve cap, roll the cylinder on its side or drag or slide them - all of which can cause damage.
 - Do not lift the cylinder with magnets, or chain- or wire rope slings.
 - For short distances, it is possible to the roll cylinder on its bottom edge (*milk churn*).

Range info

Go System offers quality camping gas solutions

GO SYSTEMS, locally distributed by Adventure Inc, offer convenient solutions for the gas user with their range of Go System stoves and gas and lanterns.

Go Gas Ltd owns and operates a fully automated, state of the art, KP Aerofil gas filling plant. The filling plant is certified for filling and testing non-refillable gas cartridges to the EN417 standard. The gas is a specifically formulated premium mix of butane, propane and iso-butane, which enhances cold weather performance. Go Gas Ltd ensures that all cartridges produced are fitted with a double skin safety valve to the EN417 standard. Go System gas is available in 125g, 220g, 445g Threaded Cartridges and a 190g Piercable Cartridge.

The Go System Travel Pack Converter al-

lows a 190g Piercable Cartridge to mimic a Threaded Cartridge. The converter makes use of a non-return valve system, which makes it possible for appliances to be safely removed when compact packing is required between uses.

Go System offers a range of compact, lightweight and incredibly powerful stoves ranging from 48g Fly Titanium to the Base Camp which is great for larger group cooking. These operate on the above gas cartridges. The Explorer and Trek Lite are also offered to provide lightweight and versatile lighting.

The Dynasty Duo and Dynasty Trio connect to either EN417 cartridges or to larger gas bottles via a regulator. These offer the car camper a convenient cooking solution.

Jetboil is globally compatible and recyclable

JETBOIL's products, locally distributed by Ram Mountaineering, are designed to benefit the user and the environment.

Their products are compatible with valves made to the globally adopted EN417 specification, which means more items fit and work with them - a bonus for users. Jetboil fuel is available in their premium four season mix, which means the fuel will perform well on all EN417 stoves. The four season range is avail-

able in three sizes (100g, 230g and 450g).

With Jetboil's CrunchIt, their products are also environmentally friendly. The Jetpower canisters can be recycled and there is no need for them to end up on a landfill waste. The CrunchIt canister recycling tool is safe, fool proof and complies with recycling standards. It punctures the fuel canister, which makes it recycling bin friendly and ready for re-melt and reformation.

Outdoor cooking with Campinggaz

CAMPINGGAZ, locally distributed by Jarden SA, has several products for your outdoor customer.

The Stellia CV is a 160 watt, two-mantle lantern that uses the PerfectFlow system, which maintains consistency in power regardless of the level of fuel or even the conditions that it is used in.

This lantern has an extremely rugged construction, with a rust-corrosion-resistant ventilator cap and high-temperature-resistant globe. It also features an integrated reflector, weighs 1.5kg and has a runtime of six hours and ten minutes on CV 470 Plus. A carry bag and extendible stabiliser is included in the package.

The 3-in-1 grill is a versatile, portable, high power cooking appliance with a 1 500 watt performance-appropriate oval burner that can

function as a grill, griddle and stove.

This compact grill has a cooking surface of 645cm² and removable cooktop. Its cooking surfaces have a secure latch that locks down for transport or storage. The 3-in-1 grill's boiling rate is eight minutes, it weighs 5.6kg and has a runtime of four hours and 50 minutes (with CV 470). This grill is also compatible with the R907 cartridge (with 25 hour runtime). The grill is available in a cylinder and cartridge version - the former is recommended when needing to burn for long, while the cartridge is great for when compact and convenience are higher priorities.

Both their Stellia CV and the 3-in-1 grill are compatible with CV 470 cartridges and have Piezo ignitions that allow lighting without matches.