

Propane Cylinder Disposal

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Waste & Materials Management
P.O. Box 7921
Madison, WI 53707-7921

Propane Facts

Propane is a hydrocarbon that is typically stored under pressure as a liquid and used as a gas. Its properties allow it to be transported in a concentrated liquid form, and then easily converted for use in a gaseous form. Since commercial propane is not 100% propane (C₃H₈), it is more accurately referred to as liquefied petroleum gas (LP gas). Commercial propane can have a mixture of several hydrocarbons of various concentrations, but it is usually more than 90% propane. Thus, for practical purposes, both terms can and are used interchangeably.

and a tall, skinny tank (14.1 oz.) typically used for torch fuel:



Propane Cylinders

Propane fuel tanks can be sorted into two groups: refillable tanks and single-use ("disposable") cylinders, also referred to as canisters.

Refillable tanks are commonly used with barbeque grills, heaters, forklifts and household use where natural gas service is not available.



Single-use cylinders come in two basic styles: a short, fat tank (16.4 oz.) typically used for portable appliance cooking and lanterns:



Propane Cylinder Storage

- Propane liquid is less dense than water, but the vapor is 1.5 times heavier than air. If a propane leak is suspected, remember that explosive propane vapors are more likely in low lying places.
- Propane cylinders should always be stored outdoors, preferably in a well-ventilated area such as an open-sided shed with a lockable gate or garage.
- For residential properties, propane cylinders are commonly stored inside a garage, basement, etc. Although this is not ideal, the residents should follow the other storage safety guidelines to decrease the chance of an accident. Propane cylinder accidents can and have caused fatal injuries and extensive property damage.
- For commercial buildings frequented by the public, the maximum stored quantity of propane is 200 lbs. For buildings not frequented by the public, the maximum stored quantity of propane is 300 lbs. (National Fire Prevention Association Code 58)

- Propane cylinders should not be stored near oxygen cylinders or flammable materials.
- Propane cylinders must be kept upright and properly secured to prevent them from tipping over or rolling around.
- Commercial properties must follow any additional regulations in the on the proper storage of



What should I do with unwanted propane cylinders?

Propane cylinders are pressurized, and can cause injury or death if they explode. Unfortunately, there are currently limited disposal options for residential propane cylinders. Due to the high disposal costs and limited disposal options, used propane cylinders are being stockpiled or improperly abandoned or disposed of in backyards, campsites, roadsides, etc.

Unusable propane cylinders generated by businesses must be managed by a licensed or approved hazardous waste recycler, treatment, storage or disposal facility.

Many sources recommend residents discard single-use propane cylinders with their general garbage after they are empty. The problem is these tanks are never completely "empty" and ideally should not be thrown in the trash, as they could contain enough fuel to explode when compressed in a garbage truck or other equipment. Additionally, the tanks are made of steel, which is very recyclable. Recycling is the preferred disposal option, but very few companies manage used propane cylinders. Programs are being developed in some communities to improve recycling options.

Propane cylinders are very expensive for household hazardous waste (HHW) collection programs to manage properly, therefore, propane cylinders are not accepted by most HHW collection programs in Wisconsin.

When you buy a propane cylinder, ask if it can be

returned for recycling or disposal when it's empty. When possible, buy refillable, reusable propane tanks. There are many sizes of refillable propane tanks on the market, some as small as 4.5 lbs. Commonly available adapters may allow larger refillable tanks to be used with equipment that typically use disposable propane cylinders.

If you are using propane cylinders at a campground, ask the campground staff or host if they have a "leftover program" where campers can get or leave behind unused firewood, propane, etc. Many campgrounds have this type of informal system in place.

As long as the valves and safety marks have been removed, propane cylinders can be transported as a scrap metal. Valves should only be removed by experienced professionals with the proper equipment to prevent explosion. Scrap metal dealers may only accept cylinders if they have more than one opening, or if they are cut in half to ensure they do not contain any propane.

In 2009, The Coleman Company included a Green Key® tool with each of their propane canisters. These "keys" were intended to increase empty propane cylinder recycling. The "key" leaves the main valve open and indicates a cylinder is safe for processing by waste management services. Unfortunately, the program was not accepted by many recycling agencies across the country. As a result, the Green Key® tool program was discontinued in 2010. If you still have a Green Key® cylinder, contact your local steel recycler to determine if they will accept propane cylinders with the Green Key® tool.



Why can't I just refill my single-use propane cylinders?

Refillable propane tanks are designed so they can be safely refilled by a propane dealer many times. As long as they have an overfill protection device (OFD), refillable propane tanks can be manufactured in any size, but producers generally do not make refillable tanks smaller than 4.5 pounds.

There are many "refill kits" on the market, which are adapter devices used to refill single-use propane cylinders from the larger refillable tanks. While these refill kits are legal to buy and use in Wisconsin, it is illegal to commercially transport refilled one-use propane cylinders. Injuries and fatalities have been

reported because of refilling. Propane gas may escape during the refilling process or from the refilled cylinders themselves because of damaged valves which are not designed for refilling. Released propane gas can be a serious health and safety hazard.

Although very similar in concept and design to disposable propane cylinders, refillable propane tanks go through additional manufacturing processes. The most significant differences are that the valves of refillable tanks are more durable and the tanks are heat treated. Heat treatment makes the steel softer and stronger, so the tank is able to resist rupturing from long term use, damage and refilling. Single-use, disposable cylinders are not heat treated, so the steel is more brittle and more likely to rupture if refilled or improperly used.

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