

propane safety on the farm

Liquefied petroleum gas, or propane, is a versatile, environmentally friendly energy source used in residential, commercial, and industrial applications. Propane can be used on the farm in many applications, such as:

- » CROP DRYING
- » VAPORIZERS
- » FLAME WEED CONTROL
- » IRRIGATION
- » WATER HEATING
- » BUILDING HEAT
- » GENERATORS
- » SANITATION
- » BROODERS
- » REFRIGERATION
- » CONFINEMENT BARNs
- » ENGINE FUEL: FORKLIFTS, VEHICLES, AND EQUIPMENT

Due to its versatility as an energy source on the farm, propane can be stored in a variety of ways. Smaller systems can be similar to those that are used at a residential household, while a bigger operation may have a larger tank (10,000+ gallons) providing liquid service using vaporizers and a variety of other applications.

The purpose of this safety guide is to advise you of the things you should know if you use or plan to install and utilize propane for your agriculture operation. It is important to:

1 Make sure the propane equipment is designed and installed properly.

2 Ensure the propane equipment operates properly day to day.

code requirements

Codes, such as NFPA 58 and NFPA 54, as well as OSHA and DOT regulations, apply to the propane system at storage, to the building, and within the building.

These codes include storage distance requirements to structures, property lines, and roadways, and requirements for piping installation, materials, line sizing, and protection devices as well as appliance installation. The local Authority Having Jurisdiction (AHJ) will approve and/or enforce the requirements of the applicable codes.

training requirements

Both the NFPA codes and the OSHA regulations require those operating a propane system must be formally trained in the applicable portions of their job.

specific hazards

- » **Propane systems, including the container, transfer bulkhead, vaporizer, piping, and regulators are all subject to damage from vehicles and equipment.** Because of this, steps must be taken to protect the components of the system from damage due to vehicular traffic.
- » **Like any mechanical equipment, components of the propane system, including the storage equipment or the appliances they serve, are subject to wear with age and use.** Each of the components should be visually inspected regularly and maintained in accordance with manufacturers' specification. That responsibility lies with the equipment owner whether it be farm-owned or leased.
- » **Steel piping is subject to advanced corrosion due to the moisture and ammonia rich atmosphere in a livestock barn.** The first 20 feet of piping is more susceptible due to temperature concerns. Corrosion-resistant piping should be considered for this reason.
- » **Excessive dust, corrosion, and other factors can create a safety hazard at confinement barns.**

special safety considerations

- » **Propane liquid, when released into the atmosphere, will immediately become very cold.** Contact with your skin may result in frostbite burns. Operators handling liquid propane should utilize appropriate Personal Protective Equipment (PPE) to protect themselves from injury.
- » In any propane operation, **identification and control of sources of ignition are of critical importance.**
- » **NFPA codes require that propane containers, piping, and equipment must be protected from corrosion.** Corrosion control can be as simple as painting or from an external source such as sacrificial anodes for underground piping.
- » **In any propane system, weather preparation is critical depending on the location.** An examination of the entire system should be made to determine how the system can be protected from the effects of weather.
- » **One very important item to consider is the use of anhydrous ammonia in agriculture.** An anhydrous ammonia container and a propane container look similar, and to the naked eye, may look like they are the same. Cross contamination of these products in these systems has occurred and can have serious implications.
- » **Avoid letting your propane system run out of gas –** if this happens on the farm, the result could come in many different forms. Plan ahead. Ensure that checking your tank gauge is a part of your routine. Contact your propane provider about setting up automatic deliveries and to find out if a tank monitor is right for you.
- » **Propane is a flammable product that has a distinct odor so you can identify if there is a leak.** The odor is added to propane as a safety measure, but keep in mind that propane's odor can be masked by livestock and other odors. Ask your supplier to help you get a whiff of propane so you know what it smells like.



contact your propane supplier

Consult with your propane supplier or your Authority Having Jurisdiction (AHJ) to help with design, compliance, and training, or if you have any questions.



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