

using farm carts safely

Liquefied Petroleum Gas, or propane, is a versatile, environmentally friendly energy source used in many residential, commercial, and industrial applications. One of the uses in agriculture is a farm cart.

A farm cart is a container equipped with wheels, used exclusively for agricultural purposes, that can be moved around the farm to supply fuel for a variety of applications.

The purpose of this safety guide is to advise you of the things you should know if you use or plan to use a farm cart(s) in your operation. It is important to:

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

2 Ensure the propane system operates properly day to day.

training requirements

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

- » Anyone with responsibility to transfer liquid propane from one container to another **must be properly trained** in accordance with applicable codes.
- » Propane Education & Research Council's Program "Dispensing Propane Safely" is a good source to provide training especially for those employees on the farm that would transfer fuel to and from a farm cart.

special safety considerations

The primary consideration in any of these operations is safety. Things to consider if you are using a farm cart:

- » Containers, whether on the farm cart, or those being filled **must be inspected prior to filling** to determine there is no damage and it is suitable for continued service.
- » Liquid and vapor connections on the container must be clearly marked. **Connecting to the incorrect connection could have serious safety implications.**

code requirements

NFPA 58 Liquefied Petroleum Gas Code applies to the use of farm carts with respect to use, positioning, filling, distances to important structures, property lines, and sources of ignition.

- » All materials used to construct the cart/system and use of farm carts must be in accordance with the code.
- » Ensure that a proper connection is made to the dispenser tank. The liquid connection must be made using the appropriate valves and fittings, and the liquid connection to the container(s) must be made using appropriate fitting at the appropriate location. Use of a first-generation Actuated Liquid Withdrawal Excess Flow Valve, sometimes referred to as a Chek-Lok is not permitted. Use of a second generation Chek-Lok or an internal valve is permitted.
- » Propane containers and anhydrous ammonia containers used for farm cart applications are prohibited from being converted from one product to the other.
- » Farm carts are considered non-highway vehicles limited to 1200 gallons WC. In accordance with codes, farm carts should be marked with product identification labels and placarded.
- » When used exclusively in agricultural application, farm carts can be moved over the road with more than five percent liquid volume but are limited to only between fields using the shortest practical distance.
- » The local Authority Having Jurisdiction (AHJ) will approve and/or enforce the requirements of the applicable codes.

specific hazards

- » **One very important item to consider is the use of anhydrous ammonia (NH₃) in agriculture.** Because the containers can look nearly the same when side-by-side, it is critical to make sure the correct product is delivered into the correct tank.
 - Since some operations on the farm use anhydrous ammonia, farm carts are often used to move and utilize the NH₃ around the farm.
 - **The subtle differences are (1) the differences in the products in them and (2) the valves and fittings used in the systems, propane (brass) and ammonia (steel).**
 - **Cross contamination of these products in these systems has occurred and can have serious implications.** NH₃ contamination in a propane container can cause severe corrosion to the brass valves and fittings.
 - **After delivery into the wrong tank, it's too late.**
- » Liquid propane, when released to the atmosphere will immediately become very cold. **Contact with your skin may result in frostbite burns.**
- » **Operators handling liquid propane must be properly trained** and should utilize appropriate Personal Protective Equipment to protect themselves from injury.
- » Like any mechanical equipment, components of a farm cart are subject to wear with age and use. **Each of the components should be visually inspected regularly,** including prior to each use, and maintained in accordance with equipment manufacturers' specifications. That responsibility lies with the equipment owner whether it be farm owned or leased.
- » **When not in use, farm carts should be stored in accordance with the code,** secured to prevent tampering, be protected from damage to vehicular traffic, and must comply with distance requirements during storage.
- » Propane is a flammable product and has a distinct odor so you can identify if there is a leak. The odor is added to propane as a safety measure. It is important to perform odor verification (sniff test). 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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