



Training Solutions, Delivered!

PROPANE SAFETY: Fueling Your Forklift

**Leader's Guide, Fact Sheet
& Quiz**

Item Number: 5289
© 2020 Safety Source Productions

This easy-to-use Leader's Guide is provided to assist in conducting a successful presentation.

PREPARING FOR THE MEETING

Here are a few suggestions for using this program:

- a) Review the contents of the Fact Sheet that immediately follows this page to familiarize yourself with the program topic and the training points discussed in the program. The Fact Sheet also includes a list of Program Objectives that details the information that participants should learn from watching the program.
- b) If required by your organization, make an attendance record to be signed by each participant to document the training to be conducted.
- c) Prepare the area and equipment to be used for the training. Make sure the watching environment is comfortable and free from outside distractions. Also, ensure that participants can see and hear the TV screen or computer monitor without obstructions.
- d) Make copies of the Review Quiz included at the end of this Leader's Guide to be completed by participants at the conclusion of the presentation. Be aware that the page containing the answers to the quiz comes before the quiz itself, which is on the final page.

CONDUCTING THE PRESENTATION

- a) Begin the meeting by welcoming the participants. Introduce yourself and give each person an opportunity to become acquainted if there are new people joining the training session.
- b) Introduce the program by its title and explain to participants what they are expected to learn as stated in the Program Objectives of the Fact Sheet.
- c) Play the program without interruption. Upon completion, lead discussions about your organization's specific policies regarding the subject matter. Make sure to note any unique hazards associated with the program's topic that participants may encounter while performing their job duties at your facility.
- d) Hand out copies of the review quiz to all of the participants and make sure each one completes it before concluding the training session.

5289 PROPANE SAFETY: FUELING YOUR FORKLIFT FACT SHEET

LENGTH: 6 MINUTES

PROGRAM SYNOPSIS:

Forklifts - one of the most familiar and widely used types of heavy equipment ever invented. There are almost as many different types of forklifts as there are jobs for them to do and there are also different ways to power them up and make them go. The most widely used forklifts have an internal combustion engine, powered by fuels that include gas, liquid petroleum, diesel fuel and compressed natural gas. This program focuses on how to use propane safely as a fuel for forklifts.

PROGRAM OBJECTIVES:

After watching the program, the participant will be able to explain the following:

- The potential hazards of propane;
- The PPE needed when using propane;
- The steps to refuel a propane truck;
- The proper storage of propane cylinders.

INSTRUCTIONAL CONTENT:

BACKGROUND

- Forklifts - one of the most familiar and widely used types of heavy equipment ever invented.
- There are almost as many different types of forklifts as there are jobs for them to do and there are also different ways to power them up and make them go.
- The two main power sources for powered industrial trucks are internal combustion, which uses a traditional engine and is powered by one of several varieties of fuel, and electric, which uses an onboard battery.
- Right now, the most widely used forklifts have an internal combustion engine, powered by fuels that include gas, liquid petroleum, diesel fuel and compressed natural gas.
- Forklifts with internal combustion engines can be quickly refueled but require regular maintenance checks for leaks of fuel or oil, worn parts requiring replacement and to keep systems working properly.
- Newer forklifts with internal combustion engines have onboard sensors that monitor and adjust emissions and have catalytic converters that help reduce emissions.

PROPANE HAZARDS

- Propane fuel, or liquid petroleum gas (LPG), burns clean with low emissions from combustion and no evaporative emissions, which makes propane powered forklifts safe for both indoor and outdoor operation.
- It's a safe fuel when handled properly but when improperly handled, it can cause serious injuries or fatalities.
- There are a few potential hazards to using propane that employees must always remember.
- First, LPG vapor is heavier than air, so it seeks the lowest lying area. It must be adequately dissipated, or it can collect in pockets and possibly ignite when exposed to a heat source.
- Second, LPG is extremely flammable and third, LPG becomes extremely cold when exposed to the atmosphere. Skin exposed to LPG can get frostbite.

SAFE WORK ENVIRONMENT

- Given the serious hazards, there are several rules that you must follow in order to maintain a safe work environment.
- Never refuel propane powered trucks in confined spaces where vapors can collect, in case a leak occurs.
- Never park propane powered trucks near heat sources, stairways or any exit or egress areas.
- Always turn the service valve off when parking propane powered trucks for a long period of time.
- You must be trained and authorized to handle and replace propane cylinders.
- Always follow proper procedures for handling and storing propane cylinders.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

- There are a number of crucial steps you must follow when replacing the propane cylinder in your forklift.
- First, you must locate the safe area designated for forklift refueling. Park your truck and stop the engine.
- At this point, you need to make sure you have the appropriate personal protective equipment you'll need.
- This will include safety glasses, which protects the eyes from any gas entering your eyes when you remove the fuel line from the cylinder. Propane can irritate your eyes, causing itching and numbness.
- Gloves, which protect your hands from the intense cold of propane. Your hands will come in direct contact with the tank and connection points, where propane can leak out when you're turning off the valve on the tank.
- Steel toed shoes: either full or empty, the propane tank can be difficult to handle and could fall on your foot during placement.
- Long sleeve shirts are also recommended to avoid the small amount of propane that can escape during the exchange from irritating your skin and causing mild frostbite.

REFUELING

- Now that your PPE is in place, you're ready to refuel.
- First, you'll need to close the propane cylinder valve and remove the coupling from the cylinder.
- Then, remove the empty cylinder from the cradle holding device and store it in the area designated for empty cylinders.
- Next, you select your full cylinder and inspect it carefully for any damage. If the cylinder has a fuel level gauge, check it to see how much fuel is available.
- Before you begin to install a new cylinder, make sure to inspect the fuel lines and couplings on the truck.
- It's crucial that the washer and O rings are in good condition and should be replaced if they show any signs of damage or aging.
- Also verify that the cylinder valve is closed before connecting.
- Now you can carefully place the cylinder in the cradle on the truck, making sure that if the cylinder has a locating pin, that it's firmly in place on the collar.
- Also make sure that the pressure valve is oriented upward in its proper position.
- Being that a full propane cylinder can weigh up to 70 pounds, always use safe lifting techniques to minimize the risk of back injuries.
- Once the cylinder is in place, reconnect the fuel line to the cylinder valve and open the valve slowly while you're still wearing all of your protective gear.
- Check for leaks and if one is found, close the valve immediately. Notify your supervisor of any problems you encounter.

STORAGE OF CYLINDERS

- Now that your truck is refueled, all that's left is proper storage of the propane cylinders.
- They should always be stored in a designated, approved location to secure them against tampering and damage.
- It's important to never store the cylinders near heat sources or exits and always make sure that service valves are closed securely.
- Propane is a safe fuel when properly handled but can be deadly if handled incorrectly.
- Proper training, awareness of hazards and attention to the details will keep you and your coworkers safe and get the job done right.

PROPANE SAFETY: FUELING YOUR FORKLIFT

ANSWERS TO THE REVIEW QUIZ

1. a

2. d

3. a

4. a

5. e

6. b

7. a

8. a

9. b

PROPANE SAFETY: FUELING YOUR FORKLIFT
REVIEW QUIZ

The following questions are provided to determine how well you understand the information presented in this program.

Name _____ Date _____

1. The two main power sources for powered industrial trucks are internal combustion and electric.
 - a. True
 - b. False

2. A few potential hazards to using propane are _____.
 - a. LPG vapor is heavier than air so it seeks the lowest lying area
 - b. LPG is extremely flammable
 - c. LPG becomes extremely cold when exposed to the atmosphere
 - d. All of the above

3. Never refuel propane powered trucks in confined spaces, where vapors can collect, in case a leak occurs.
 - a. True
 - b. False

4. You must be trained and authorized to handle and replace propane cylinders.
 - a. True
 - b. False

5. Personal protective equipment (PPE) for handling propane includes _____.
 - a. Safety glasses
 - b. Gloves
 - c. Steel toed shoes
 - d. Long sleeve shirts
 - e. All of the above

6. Once you select your full cylinder, you do not need to inspect it carefully for any damage.
 - a. True
 - b. False

7. Being that a full propane cylinder can weigh up to 70 pounds, always use safe lifting techniques to minimize the risk of back injuries.
 - a. True
 - b. False

8. Once the cylinder is in place, reconnect the fuel line to the cylinder valve and open the valve slowly while you're still wearing all of your protective gear.
 - a. True
 - b. False

9. You can store propane cylinders near heat sources or exits.
 - a. True
 - b. False