

## **June 2007 Safety Meeting Purging Tanks and Cylinders**

Purging a tank or cylinder is an operation that is designed to remove air and moisture from within a propane container. If allowed to remain, these substances can create rust and corrosion that could in turn lower the effectiveness of the propane odorant, Ethyl Mercaptan (EM). This process is often referred to as odorant fade. Another important issue is that if air is left inside a tank that air could interfere with the burning and normal operation of the appliance system. This is especially important on a vapor withdrawal system. And lastly, depending on the circumstances, air inside a container can cause vapor pressures inside the container to rise above normal, possibly causing the pressure relief valve to open.

The purpose of this meeting is to remind drivers and technicians of the importance of ensuring that only purged tanks and cylinders are filled with propane.

### **Containers that need purging include:**

- New containers not vacuum-purged by the manufacturer;
- Containers that were vacuumed-purged but lose negative pressure due to a leak or accidental opening of a valve/fitting; and
- Containers left open to the atmosphere for longer than routine maintenance operations.

### **Steps to Purging**

1. Open the service valve and bleed any air from the container.
2. Attach the vapor hose end valve from your supply source to the container's service valve with the appropriate adapter.
3. Pressurize the container with 15 psig propane vapor.
4. Close the vapor hose valve and bleed off the vapor inside the container. Make sure the vapor is vented to a safe environment.
5. Repeat the above 4 steps 5 times. Note: if needed, add methanol to the container on the last purging cycle.
6. Leave the container charged with 15 psi vapor pressure when completed.

### **Issues to Consider Relative to Purging**

- Drivers should always check to ensure each tank they fill is pressurized. If not, is the condition an out-of-gas situation or has a valve/fitting been left open that will require the container to be purged?
- If you are purging a container only use propane vapor at 15 psig.
- Record on a company document all purging operations with the date and serial number of the container that was purged.
- Always ensure that the air/vapor mixture is vented to a safe atmosphere. Use a purging stack if at all possible.

- Remove all ignition sources within at least 25 feet.
- Always leave all used customer tanks and cylinders that are stored in your yard with the service valve tightly closed.
- If methanol is added to the container, do not overdose it with methanol. Find a dosage chart specific to the size of your container and only add that amount of methanol.
- When working around methanol, use protective gloves and eyewear to prevent injuries. Remember, methanol is extremely poisonous to the skin and internal organs; also, it will burn without a visible flame.
- Be familiar with your company policies and procedures.
- Act only within your skills and knowledge base when it comes to purging.

### **Group Discussion/Activities**

Review with the group your company's purging expectations and procedures. Have a skilled serviceman demonstrate a purging operation to the group using the available equipment. Open up discussions with the group and answer questions.

**CAUTION: Do not purge a container with propane liquid. Propane liquid inside a container being purged can freeze water making it impossible for that ice to exit the container during purging operations.**

### **Summary**

Purging customer containers is a vital activity that needs to be accomplished by skilled and trained individuals. One of the biggest, but simplest steps is to first identify those containers that need purged. Typically, unless the tank is out-of-gas or is de-pressurized for a short period of time to change out a fitting, the container should probably be purged. If there is a doubt it is recommended to purge the container. Be familiar with your company procedures and always be on the lookout for containers that are in need of purging. Lastly, it's recommended to document all purging operations on company paperwork including the container serial number.

# June 2007 Test

## Purging of Tanks and Cylinders

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Instructions: Read and answer each of the following questions. When complete, grade the test and review incorrect answers so each employee is “armed” with the correct answers before they leave the training.

1. Ethyl Percaptan is the odorant used in propane.
  - a. True
  - b. False
  
2. When purged, containers should be charged with 15 psig pressure.
  - a. True
  - b. False
  
3. A purging operation should be done 3 times according to this meeting.
  - a. True
  - b. False
  
4. Air in a tank can artificially raise the vapor pressure.
  - a. True
  - b. False
  
5. Recording information about a purging operation on a company document is recommended.
  - a. True
  - b. False
  
6. Containers that need purge include:
  - a. New containers not vacuum-purged
  - b. Containers that lost their vacuum purge
  - c. Containers left open to the atmosphere for extended periods
  - d. All of the above.

# **June 2007**

## **Answer Sheet**

1. b
2. a
3. b
4. a
5. a
6. d