



# Tailgate Safety Training for Landscaping and Horticultural Services

Agricultural Safety Program, 590 Woody Hayes Drive, Columbus, OH 43210

## Non-Vented Heaters

**Objective: Use non-vented heaters safely.**

### *How to Use This Module*

Many greenhouses and other buildings use non-vented space heaters. For this module:

- Read the information below on safety features and safe practices for electric, kerosene, and natural gas heaters.
- Find safety features on heaters in your workplace.
- Review safe practices with your supervisor.
- Review the important points.
- Take the True/False quiz to check your learning.

## Background

Many landscaping and horticulture businesses use non-vented space heaters in greenhouses and other buildings. Workers should be aware of:

- Where heaters are positioned.
- Safety issues such as carbon monoxide poisoning and proper ventilation.
- Safety features such as tip-over switches.

These heaters are usually free-standing and do not require ventilation ducts. However, adequate air circulation is necessary to ensure safe working conditions. Fans can be used to circulate air. Windows and doors can be opened slightly to increase circulation. If kerosene or gas heaters are used, be aware of the possibility of carbon monoxide poisoning. Gas heaters should be equipped with oxygen depletion sensors that will activate when the air becomes oxygen poor.

## Safety Tips for Electric Heaters

- Know where the heater is located in the work area.
- Make sure the heater is not positioned near aisles or walkways. Allow at least three feet of clearance from other objects.
- Be aware that electric heaters can become very hot to the touch.

- Keep all safety guards in place.
- Only use a heater that has an automatic shutoff switch if it is tipped over.
- Make sure that the insulation on the cord is not frayed or brittle.
- Follow all manufacturer guidelines listed on the heater and in the operator's manual.
- Report any problems or malfunctions to your supervisor or employer.

### **Safety Tips for Kerosene Heaters**

- Know where the heater is located in the work area.
- Make sure the heater is not positioned near aisles or walkways. Allow at least three feet of clearance from other objects.
- Be aware that kerosene heaters can become very hot to the touch.
- Only use a heater that has an automatic shutoff switch if it is tipped over.
- Keep all safety guards in place.
- Only refill the heater when it is cool.
- Only use 1-K kerosene. Never use any other type of fuel. Other fuels could cause a fire or an explosion.
- Never overfill the tank.
- Store kerosene in a sealed blue container clearly marked "kerosene." Never put kerosene in a container that has held other fuels such as gasoline. Even a small amount of gasoline in a kerosene heater can cause a fire.
- Make sure the wick is set at the proper height. A short wick can cause carbon monoxide levels to rise.
- Make sure there is adequate ventilation when using kerosene heaters. A heater that operates poorly could emit carbon monoxide. Carbon monoxide poisoning has symptoms similar to the flu. Symptoms could include nausea, chest pain, drowsiness, vomiting, and confusion. Keep all interior doors open to help circulate air. Windows could be opened slightly to help air circulate.
- Kerosene heaters should not be used in airtight buildings.
- Follow all manufacturer guidelines listed on the heater and in the operator's manual.
- Report any problems or malfunctions to your supervisor or employer.

### **Safety Tips for Natural Gas Heaters**

- Know where the heater is located in the work area.
- Make sure the heater is not positioned near aisles or walkways. Allow at least three feet of clearance from other objects.
- Only use a heater that has an automatic shutoff switch if it is tipped over.
- Keep all safety guards in place.
- Only use a gas heater that has an oxygen depletion sensor. If there is a problem, this sensor will shut off the heater before carbon monoxide reaches dangerous levels.
- If the pilot light should go out, light a match before you turn the gas on. This will prevent the possibility of a flashback explosion.
- Never try to light the heater if you smell gas. If you smell gas, turn the heater off, open doors and windows, and leave the building. Report the problem to your supervisor or employer.
- Make sure there is adequate ventilation when using gas heaters. A gas heater that operates poorly could emit carbon monoxide. Carbon monoxide poisoning has symptoms similar to the flu. Symptoms could include nausea, chest pain, drowsiness, vomiting, and confusion. Keep all interior doors open to help circulate air inside the building. Windows could be opened slightly to help air circulate.
- Gas heaters should not be used in airtight buildings.
- Follow all manufacturer guidelines listed on the heater and in the operator's manual.
- Report any problems or malfunctions to your supervisor or employer.

## Review These Important Points

- Know where the heater is located.
- Make sure the heater is set at least three feet from other objects.
- Keep all safety guards in place.
- Follow all manufacturer guidelines when operating or filling the heater.
- Always allow for adequate ventilation while working.
- Be aware of the possibility of carbon monoxide poisoning.
- Report any problems to your supervisor.

## About These Modules

The author team for the training modules in the landscape and horticultural tailgate training series includes Dee Jepsen, Program Director, Agricultural Safety and Health, Ohio State University Extension; Michael Wonacott, Research Specialist, Vocational Education; Peter Ling, Greenhouse Specialist; and Thomas Bean, Agricultural Safety Specialist. Modules were developed with funding from the Occupational Safety and Health Administration, U.S. Department of Labor, Grant Number 46E3-HT09.

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Answer Key: 1 = T, 2 = T, 3 = T, 4 = T, 5 = F.

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EXTENSION

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## Non-Vented Heaters

Name \_\_\_\_\_

### True or False?

- |  |   |   |
|--|---|---|
| 1. Do not use an electric heater if the cord is frayed.            | T | F |
| 2. Place the heater at least three feet from other objects.        | T | F |
| 3. Carbon monoxide poisoning symptoms are similar to flu symptoms. | T | F |
| 4. If you smell gas, do not try to light a gas heater.             | T | F |
| 5. Remove safety guards if they get in your way while working.     | T | F |