



Tailgate Safety Training for Landscaping and Horticultural Services

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

Selecting a Respirator

Objective: Select a respirator to protect against hazards in the air.

How to Use This Module

Respirators protect workers' lungs from dust, mold, mist, and chemicals. For this module:

- Review the information below on different types of hazards and respirators.
- Review your employer's written Respiratory Protection Program (RPP).
- Identify your normal working activities that require respirators.
- Ask your supervisor to show you the respirators you will use.
- Review the important points.
- Take the True/False quiz to check your learning.

Background

Workers are often exposed to hazards in the air:

- Working around heavy dust in warehouses and greenhouses.
- Working around mold.
- Handling or applying pesticides.
- Spraying paint.
- Using solvents or other chemical irritants.
- Working around allergens — any substance a worker is allergic to.

Respirators protect workers against those hazards. Three types of respirators are used during normal work activities:

- **Particulate respirators** use a filter to trap solid particles like dust or mold. They also filter out liquid particles like paint or pesticide mist. They are sometimes called *N95 respirators*.
- **Gas/vapor respirators** use a cartridge to absorb gases and vapors. They are also called *single cartridge respirators*.
- **Combination respirators** have a filter for particles and a cartridge for gases and vapors. They are also called *dual cartridge respirators*.

A Self-Contained Breathing Apparatus (SCBA) is not often needed in landscaping and horticultural services. An SCBA provides extreme protection for:

- Fire fighting.

- Atmosphere with less than 19.5 percent oxygen.
- Unknown atmosphere.
- Atmosphere that can cause death.
- Atmosphere from which the worker cannot escape.

Note: Disposable dust masks are not recommended. The protection they provide is unknown. They should only be used for nuisance levels of dust, mold, and mist.

The Respiratory Protection Program

Your employer should have a written Respiratory Protection Program (RPP). It should describe:

- When a respirator is required.
- Medical evaluations needed.
- How to select a respirator.
- How to use respirators.

Review your employer's RPP. In particular, look for details on your own normal working activities.

Material Safety Data Sheets

Material Safety Data Sheets (MSDSs) also specify respiratory protection. Check MSDSs for details on pesticides and chemicals.

General Cautions

- If the hazard appears to be immediately dangerous to life and health (IDLH), leave the area immediately or do not enter. If you must enter, you must use an SCBA.
- Use a full-face respirator if your skin or eyes are irritated. If not, a half-mask respirator is acceptable.
- You must fit-test a respirator each time you use it. You may not be able to use a respirator if you have facial hair, scars, or hollow temples. For more details, see the Tailgate Safety Training module *Respirator Fit*.

Select a Particulate Respirator

- Choose a safe level of protection. If you are not sure, choose the safest protection, Type 100 or HEPA:
 - ◆ Type 95 = 95 percent efficient; appropriate for most dust, mold, or mist.
 - ◆ Type 97 = 97 percent efficient; higher level of protection.
 - ◆ Type 100 or HEPA = 99.7 percent efficient; used with highly toxic substances like asbestos, lead, and cadmium.
- Pesticide or paint mists may contain oil particles. If you are not sure, use P or HE filters:
 - ◆ N = Not resistant to oil; do not use with oil.
 - ◆ R = Resistant to oil; use for up to 8 hours.
 - ◆ P = Oil proof; use for more than 8 hours.
 - ◆ HE = High efficiency; use in combination respirators.

Select a Gas/Vapor Respirator

- Choose the correct color-coded cartridge. If you are not sure, choose Olive Green:
 - ◆ White = Acid gas
 - ◆ Black = Organic vapors
 - ◆ Green = Ammonia gas

- ◆ Yellow = Acid gas and organic vapor
- ◆ Olive Green = Multi-gas combinations

Select a Combination Respirator

- Choose a Type 100 or HEPA filter.
- Choose a color-coded cartridge according to the previous list.
- If you are not sure, choose a combination respirator. It protects against particles as well as gases and vapors.

General Cautions

- Change filters:
 - ◆ When it becomes hard to breathe or
 - ◆ According to the manufacturer's instructions.
- Change cartridges:
 - ◆ When you taste or smell a substance or
 - ◆ When your eyes, nose, throat, or lungs become irritated or
 - ◆ According to the manufacturer's instructions.
- After use, you must clean and store respirators carefully.
- For more details, see the Tailgate Safety Training module *Properly Cleaning and Storing Respirators*.

Review These Important Points

- If things appear to be IDLH (immediately dangerous to life and health), leave the area or do not enter.
- If you're not sure, choose the safest protection:
 - ◆ Combination respirator
 - ◆ Type 100 filter
 - ◆ Olive Green multi-gas cartridge

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 = F, 2 = F, 3 = T, 4 = F, 5 = T.

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Name _____

True or False?

- | | | |
|---|---|---|
| 1. Type R filters protect against all hazards. | T | F |
| 2. SCBAs are required for working around dust and mold. | T | F |
| 3. Yellow cartridges protect against acid gas and organic vapors. | T | F |
| 4. Respirators are not required for normal working activities. | T | F |
| 5. Particulates include both solids and liquids. | T | F |