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

**Trainer’s Note**

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

 • Discuss the information below on different types of hazards and respirators.

 • Review your written Respiratory Protection Program with workers.

 • Review your normal working activities that require respirators.

 • Show workers the different respirators used in your workplace.

 • Review the important points.

 • Have workers take the True/False quiz to check their 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 to which a worker is allergic.

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 list above.
* 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.

**Verbal Quiz**

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**

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| Answer Key |
| 1 | F |
| 2 | F |
| 3 | T |
| 4 | F |
| 5 | T |