

# Respiratory Protection

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Proper respirator use protects employees from harmful dusts, fogs, fumes, mists, gases, smokes, sprays or vapors. If your workplace contains hazardous atmospheres, you need to know when and how to wear a respirator.

## Employer Responsibilities

- Identify and evaluate respiratory hazards
- Attempt to eliminate or reduce hazards using engineering controls
- Select and provide appropriate respirators when engineering controls are not possible
- Establish and implement a written respiratory protection program with worksite-specific procedures
- Identify and train a competent administrator to manage the program
- Ensure the proper use and fit of appropriate respirators
- Provide training and retraining for those who wear respirators

## Your Responsibilities

- Always use an appropriate respirator in potentially hazardous environments
- Refer to a chemical's Safety Data Sheet (SDS) for the type of respiratory protection you need to use
- Follow proper procedures and safe work practices when wearing a respirator

## Prerequisites

### **Medical Evaluation**

- Medical evaluations are a way to determine your ability to SAFELY use a respirator
- Employees should disclose any known medical conditions to the healthcare professional that administers the evaluation

### **Fit Testing**

- The proper fit of a respirator is essential to its effectiveness
- Workers should be fit tested with the same make, model, style and size of respirator they will use
- Fit test before using the respirator
- Safety standards typically require retesting on a set schedule (e.g., annually)
- You must ensure that the protective seal is intact and that the respirator is the right size for your face and fits securely and snugly
- Facial hair, glasses and PPE may interfere with the seal
- Fit testing typically involves test exercises and re-donnings of the respirator. Three test exercises are: normal breathing, bending over and head shaking

## Types of Respirators

There are a variety of respirator types, and each has certain capabilities and limitations. Knowing these limitations will help you select the appropriate respirator.

### ***Disposable Dust Respirators***

- Designed to protect lungs from low concentrations of dust, mists, pollen and animal dander
- Lightweight, relatively comfortable and inexpensive
- Do not protect against chemicals, gases vapors and oxygen-deficient atmospheres

### ***Air-Purifying Respirators (APRs)***

- Have filters, cartridges or canisters that remove contaminants from the air by passing the ambient air through the air-purifying element
- Can be either full-face or half-masks with mechanical or chemical cartridges
- Small, light and simple in operation
- Time period over which protection is provided depends on the canister, cartridge or filter type; concentration of contaminant; humidity levels in the ambient atmosphere; and user's respiratory rate
- Limited to conditions where exposures can be measured so that the user can be sure the respirator will be effective
- Do not supply oxygen; therefore, must not be used in oxygen-deficient atmospheres

### ***Self-Contained Breathing Apparatus (SCBA) Respirators***

- Provide clean air from a high-pressure cylinder carried on the user's back
- Offer maximum protection from airborne contaminants
- Weight, bulk and limited service (no more than 40 minutes of air) are factors to consider
- Require additional training for maintenance and use

### ***Air-line Respirators***

- Provide clean, fresh air from a stationary source
- May be equipped with a half or full facepiece, helmet or hood
- May be used for long periods of time and provide a high degree of protection
- Provide no protection if air supply fails; may only be used when the wearer would be able to escape unharmed from the atmosphere without the aid of the respirator
- Drawback: Hose restricts movement and can be punctured or pinched off

## Staying Safe

### ***IDLH (Immediately Dangerous to Life or Health) Atmospheres***

- These atmospheres can put your life at immediate risk, irreversibly damage your health or make it difficult to escape
- All toxic and oxygen-deficient atmospheres are considered IDLH
- Employees need specific training for IDLH atmospheres
- Only employees with approved atmosphere-supplying respirators may enter these atmospheres
- At least one employee who is trained and equipped to provide emergency rescue must be located outside the IDLH atmosphere

### ***Respirator Failure***

While wearing a respirator in a hazardous atmosphere, pay attention to possible signs of respirator failure, such as changes in breathing resistance or leakage of the facepiece.

Exit the area immediately and go to a safe place to remove your respirator if you experience:

- An odor or taste
- Eye or throat irritation
- Any discomfort such as nausea, dizziness or weakness

## **Inspection and Maintenance**

### ***Inspection***

- All respirators, including respirators maintained for use in emergency situations, should be inspected before each use and during cleaning
- Evaluate respirator's tightness of connections and condition of the various parts
- Make sure rubber parts are pliable and show no signs of deterioration
- Respirators that fail an inspection, or are otherwise found to be defective, must be removed from service and then discarded or repaired. Only trained personnel may repair respirators

### ***Cleaning and Storage***

- Clean your respirator as often as necessary to maintain its sanitary condition
- When not in use, respirators should be stored to prevent excessive exposure to dust, sunlight, extreme temperatures, excessive moisture or damaging chemicals
- Plastic containers with lids provide adequate storage for respirators
- Refer to the manufacturer's instructions for help or ask your supervisor