

# Respiratory Protection Training

29 CFR 1910.134

# Respiratory Protection- Employer Roles

Employers are required to:

1. Maintain a written respiratory protection program
2. Provide instruction on respiratory hazards employees are exposed to
3. Provide instruction on the uses and limitations of respiratory protection
4. Instruct and demonstrate to employees how to properly wear respirators
5. Allow employees to practice procedures

# Respiratory Protection- Employer Roles

6. Provide user seal check instructions
7. Fit test each employee for a respirator
8. Instruct employees in procedures for maintenance and storage
9. Inform employees how to recognize medical signs/symptoms that may limit or prevent effective use of respirator
10. Document fit testing and training for all employees

# When are respirators needed?

- Your health depends on breathing clean air, but in an industrial environment, respiratory hazards may be present.
- These hazards include:
  - Dusts, fumes, and mists
  - Gases and vapors
  - Oxygen deficiency
  - Temperature extremes



# Respiratory Hazards-

## Dusts, Fumes, and Mists

Dusts, fumes, and mists are tiny particles that float in the air. Though you can't often see or smell them, they can become trapped in your respiratory system and cause irritation or short- and long-term health problems and death. **Dusts** are caused by milling, sanding, crushing, and grinding operations. **Fumes** occur in high-heat operations such as welding or furnace work. **Mists** are found near spraying, mixing, and cleaning operations.

# Respiratory Hazards- Gases and Vapors

Gases and vapors are contaminants mixed in the air. These can irritate your respiratory system and cause short- or long-term health problems or even death from suffocation. **Gases** are produced by chemical processing and high-heat operations. **Vapors** can be found in solvent cleaning, painting, or refining.

# Respiratory Hazards-

## Oxygen Deficiency and Temperature

- Oxygen deficiency is simply a lack of oxygen in the air. Oxygen deficiency can cause you to lose consciousness or die in minutes. Oxygen deficiency may occur in enclosed areas.
- Temperature extremes may damage your respiratory system. They may occur in high-heat furnaces or freezing processes.

# Respirators-

## Uses and Limitations



- Reusable Half Mask and Vapor Respirators
  - These are air-purifying devices that cover your nose, mouth, and chin.
  - Gas and vapor respirators have unique, replaceable cartridges that capture gases and vapors from the air. A prefilter may be attached to the cartridge to trap dusts, fumes, or mists.
  - A half mask won't work properly unless it's properly fitted to your face. Perform a positive and negative fit test before entering a hazardous area.



# Respirators- Uses and Limitations



- Full Face Respirators
  - Like half mask but with the addition of a facepiece to protect your eyes and face
  - Cartridges contain chemicals to absorb gases and vapors. Again, a prefilter may be added.
  - Though the concentration level of gases, vapors, or particle hazards are reduced, these do not protect against oxygen deficiency, temperature extremes, or hazards not listed on the cartridge.

# Respirators- Uses and Limitations



- Supplied-Air Respirators (Air-line and Self-Contained)
  - Additional head, eye, and face protection
  - Air-line respirators will supply you with clean air (temperature controlled) from a hose.
  - Self-contained respirators allow you greater mobility
  - Both protect you from oxygen deficiency, temperature extremes, and high concentrations of dusts, fumes, mists, gases, and vapors.
  - Make sure all parts are working properly before entering a hazardous work zone.

# Respirators-

## Donning and Adjusting

Instructions for fitting the half mask:

1. Slightly bend the nose wire to form a gentle curve.
2. Find the two headbands and separate using your index fingers and thumbs.
3. While holding the headbands with your index fingers and thumbs, cup the respirator under your chin.
4. Pull the headbands up over your head.

# Respirators-

## Donning and Adjusting

5. Release the lower headband from your thumbs and position it at the base of your neck.
6. Position the remaining headband on the crown of your head.
7. Conform the nosepiece across the bridge of your nose by firmly pressing down with your fingers.
8. Continue to adjust the respirator and secure the edges until you feel you have achieved a good facial fit.

# Respirators-

## Performing a Seal Check

- After fitting the respirator, perform a seal check. The shape of your face, presence of facial hair, missing dentures, and certain skin conditions can prevent a proper fit.



# Respirators-

## Performing a Seal Check

- Positive Fit Check
  - With palms over exhalation valve openings, exhale gently into the mask. You should feel pressure in the face piece.
- Negative Fit Check
  - Place palms over cartridge openings and inhale for 10 seconds. You should feel the mask pull in toward your face.

# Respiratory Protection- Maintenance and Storage

- Half Mask
  - If mask becomes clogged, wear a new one then throw away when done.
- Reusable Half Mask
  - Wash your respirator in warm water with mild detergent and sanitize. Inspect your respirator regularly for damage. Store it in an air-tight container in a clean, cool, dry place. Replace cartridges as needed and notify your supervisor if repairs are needed.

# Respiratory Protection- Maintenance and Storage

- Full-Face
  - Clean facepiece with sanitizing cloth. Store it in an air-tight container in a clean, cool, dry place and notify supervisor when repairs are needed.
- Supplied-Air
  - Check all parts of system- respirator or hood, hose, regulator, and tank or compressor. Use sanitizing wipes on face area. Store in a clean, dry place.



# Respiratory Protection-

## Medical Signs and Symptoms

A periodic medical assessment of employee health will be given to keep you breathing safely on the job. If you experience significant changes to your health (structure of your face or respiratory fitness) or have any problems with a respirator, please notify your supervisor or the Department of Environmental, Health, and Safety at 758-EHAS.

# Teamwork

Your employer is doing everything possible to protect you from respiratory hazards. For the safety program to work, wear your respirator, take good care of it, and talk over any problems with your supervisor.

