Safety Meeting Topic #42
Respiratory Protection

Air that’s contaminated or lacks oxygen can be very harmful to your health. Inhaling chemical vapors, gasses or fumes and dust can irritate and even seriously damage the lungs, respiratory systems, or other organs, sometimes fatally. Lack of oxygen can cause death in minutes.

OSHA requires employers to identify and protect against breathing hazards. Engineering controls are the preferred form of protection; e.g., ventilation, using less toxic measures, and enclosing operations that create air contaminants. When air measurements reveal that engineering controls haven’t brought air hazards to safe levels, employers must provide employees with respirators.

Wear the respirator designed to protect against your specific job hazards. Check job procedures and/or chemical MSDS’s. Air-purifying or filtering respirators screen out or “wash” contaminated air, but don’t supply oxygen. A canister, cartridge, or filter color-code shows what chemical this type of respirator protects against. Disposable surgical-type masks can be used only for very minimal dust hazards. Air-supplying respirators supply oxygen when the air contains 19.5% oxygen or less, and in situations termed Immediately Dangerous to Life or Health (DLH). Self-contained breathing apparatus (SCBA’s) have tanks that hold limited amounts of air and signal when air is low. Full-face mask respirators connect with tanks or compressors that provide an unlimited supply of air. The connecting hoses, however, can get in the way.

Get a good respirator that fits and that will seal out contaminants. OSHA requires employees to have fit tests to assure a good seal. A respirator should: be secure, but not too tight around the chin, not slip, not pinch the nose, and allow you to move your head and talk.

Not everyone can wear a respirator. You may not be able to get a good fit or use a respirator safely if you wear eyeglasses. OSHA says you can't wear contact lenses with a respirator in contaminated atmospheres, have a beard or sideburns, wear a skull cap, are missing dentures, have breathing problems or a heart condition, and are heat sensitive or claustrophobic (fear of confined spaces).

Inspect respirators to be sure they retain protective ability. Inspect respirators before and after each use, and report: connections that aren’t tight; holes, cracks, tears, or other damage; wear or deterioration, especially in rubber parts like the face piece seal, connecting tube, etc.; dents or corrosion in filters, cartridges, or canisters; and less than a full charge in an air or oxygen canister.

Maintain and store respirators properly. Remove respirators without contaminating your skin or clean areas. Follow decontamination, cleaning, and disinfecting procedures.
Store the respirator so it’s protected from dust, sunlight, heat, extreme cold, excessive moisture, and damaging chemicals. Respirators stored in lockers or tool boxes must be in carrying cases or cartons. Rest the respirator’s rubber and plastic parts in their normal position for storage. Don’t squish. Doing so will deform and impair the seal.

Here’s a digest of the federal OSHA 1910.134 Respiratory Standard Requirements:

FIT TESTING
- Administered by a qualified technician.
- Checks for levels of taste and smell.
- Determines what size respirator you would wear.
- Determines what type of “cartridge” you need to use to screen out certain respiratory pollutants.
- Provides use/storage/inspection respiratory protocols.

MEDICAL QUESTIONNAIRE
- OSHA-designed form (150 questions regarding your respiratory history).
- Becomes part of your confidential Health Records.
- Requirements regarding need for chest X-rays.
- Questionnaire regarding family history of respiratory problems (smokers cough, throat cancer, etc.).
- Might result in your ability to work at certain construction trades (confined spaces, spraying of underbrush, painting, etc.).

WHEN TO WEAR RESPIRATORS (MANDATORY)
- Confined Spaces
- Dusty Conditions
- Sawing/Chipping/Grinding/Drilling
- Painting (Spray, etc.)
- Asbestos Exposure
- Lead Exposure
- Demolition (lead, asbestos, cancer-causing agents, etc.)
- Dry-Wall Sanding
- Blowing Insulation (attics, basements, wall, etc.)
- Mixing Cement.

REASONS YOU MIGHT NOT BE ABLE TO WEAR RESPIRATORS
- Facial Hairs
- Scars on Face/Neck
- Pony Tail
- Long Hair
- Moustache
- Allergies
- High Blood Pressure
- Smokers Cough
- Asthma
- Taste-Smell Impediment
- Prior History
TRAINING FOR RESPIRATORY PROGRAM

- Required Annually
- Fit-Testing Procedures
- Use & Maintenance of Respirators
- Use of Respirators in Emergencies
- Differences Between Air-Breathing and Air-Supplied Respirators
- Maintenance and Storage of Respirators
- Medical Signs and Symptoms
- Jobsite Use of Respirators (MANDATORY)

For more detailed information regarding company policies and procedures, refer to the Hayward Electric Injury & Illness Prevention Program manual, Chapter 6, Confined Spaces.

**Discussion Point:** Ask participants to demonstrate how to select, inspect, and wear a respirator, using respirators that protect against your facility’s hazards.

**Conclusion:** Wear a properly fitted respirator to protect against breathing hazards. Learn to fit and use respirators to assure safe levels of oxygen and to avoid inhaling harmful contaminants.