

## 01 TYPES OF RESPIRATORS

A respirator is a protective device that covers the nose and mouth or the entire head to guard the wearer against hazardous atmospheres. Respirators may be:

- + Tight fitting – that is, half masks, which cover the mouth and nose and full face pieces that cover the face from the hairline to below the chin.
- + Loose-fitting – such as hoods or helmets that cover the head completely.

There are two major classes of respirators:

- + Air purifying – which remove contaminants from the air.



- + Atmosphere-supplying – which provide clean, breathable air from an uncontaminated source. As a general rule, atmosphere-supplying respirators are used for more hazardous exposures.



*This Self-Contained Breathing Apparatus, or SCBA, is a type of atmosphere-supplying respirator.*

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## 02 RESPIRATOR STORAGE

Proper respirator storage is important. If your respirator isn't taken care of properly, it can't protect you. Never leave your respirator in an area where it can be exposed to contaminants. Keep respirators in bags or cases until they are needed. Never let your respirator lie around uncovered in areas where contaminants are present. Don't store it in direct sunlight. Pay attention to signs of wear and tear, like discoloration, cracking plastic and scratches on your mask.

## 03 FIT TESTING

Fit testing is required annually so that each user can be sure the respirators they use fit and seal properly. There are two types of fit testing:



- + **Qualitative Fit Testing** is a pass/fail test method that uses your sense of smell or taste to test your reaction to an irritant in order to detect leakage into the respirator face piece. This method does not measure the actual amount of leakage. Whether the respirator passes or fails is based simply on you detecting leakage of the test substance into your face piece. OSHA accepts four qualitative fit testing methods:
  - Isoamyl acetate, which smells like bananas
  - Saccharin, which leaves a sweet taste in your mouth
  - Bitrex, which leaves a bitter taste in your mouth. This one is the grossest.
  - Irritant smoke, which can cause coughing
- + **Quantitative Fit Testing** uses a machine to measure the actual amount of leakage into the face piece and does not rely upon your sense of taste, smell, or irritation in order to detect leakage. The respirators used during this type of fit testing will have a probe attached to the face piece that will be connected to the machine by a hose.

## 04 PASSING THE FIT TEST

### Trouble passing your fit test?

- + Shave. OSHA requires you to be clean shaven to wear a respirator.
- + Avoid using inhalable products (cigarettes, e-cigarettes, vaporizers, etc.) for **at least 30 minutes** before your fit test. Particles from the use of these products become stored in the lungs and will hinder the results of your fit test, giving you a false reading!

## 05 RESPIRATOR CARTRIDGES

Respirator cartridges do not last forever! Always check cartridge expiration dates prior to use and make note of this date. Also, cartridges are specific to certain chemicals or families of chemicals. A cartridge designed to protect you from particulates will not protect you from ammonia and vice versa. Color coding makes it easy to identify the various types of cartridges.

## 06 RESPIRATOR Q&A

Before using a respirator on the job, ask yourself:

- + Does my company have a respirator program? Generally, someone in your Safety or Human Resources Department (maybe you?) will maintain this written document and make it accessible to you.
- + When was my last fit test? Hopefully, within the last 365 days.
- + When was my last medical clearance? This is required as often as the physician says it's required, generally every year or two.

## 07 PROTECTION PROGRAM

The primary objective of a respiratory protection program is to prevent exposure to air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, vapors, or sprays and to prevent occupational illnesses. An effective respirator program must contain the following elements:

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- + Written worksite-specific procedures
- + Program evaluation
- + Selection of an appropriate respirator approved by the National Institute for Occupational Safety and Health (NIOSH)
- + Training
- + Fit testing
- + Inspection, cleaning, maintenance, and storage
- + Medical evaluations
- + Work-area surveillance
- + Air-quality standards

## 08 MAKING THE RIGHT CHOICE

Consider the following when choosing the correct respirator:

- + Determine what the hazard(s) are and the extent of exposure.
- + Consider user factors that affect respirator performance and reliability.
- + Select an appropriate NIOSH-certified respirator.

## 09 RESPIRATOR TRAINING

Training is essential for correct respirator use. Employers must teach supervisors and workers how to properly select, use, and maintain respirators. All employees required to use respiratory protection must receive instruction in the proper use of the equipment and its limitations. Employers should develop training programs based on the employee's education level and language background. The following must be included in respirator training:

- + Why respirator use is necessary
- + Nature of the respiratory hazard and consequences of not fitting, using, and maintaining the respirator properly
- + Reasons for selecting a particular type of respirator
- + Capabilities and limitations of the selected respirator
- + How to inspect, put on and remove, and check the seals of the respirator
- + Respirator maintenance and storage requirements
- + How to use the respirator effectively in emergency situations
- + How to recognize medical signs and symptoms that may limit or prevent the effective use of the respirator

*Here at Safex, we specialize in recommending respirators based on your facility's specific hazards, writing respiratory protection programs, and performing respirator training and fit testing. Please let us know how we can help!*