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RESPIRATOR 101

When working in hazardous environments or with hazardous materials, taking every precaution to protect your lungs is essential. Respirators are designed to filter out specific particles, chemicals, or vapors, to prevent them from causing injury, illness, or worse.

WHAT ARE THE HAZARDS?

Determining hazards present in a particular job is the first step to selecting a respirator. Each type of respirator has features designed to mitigate the risk associated with various airborne irritants.

SOME COMMON HAZARDS ARE:

- Particulates - silica, hazardous dust and fibers
- Welfume - stainless and galvanized steel
- Lead
- Asbestos/Mold
- Bleach/Ammonia - General cleaning products
- Pesticides/Insecticides
- Solvents - Water based latex
- Chemicals - Sulfur dioxide, chlorine, ammonia

While this is not a complete guide for every hazard you might encounter, it cannot be stressed enough the importance of matching the respirator and filter with the hazards present.

ASSESS THE SITUATION

Next, the jobsite should be assessed for overall employee exposure. Do all workers on the site need respiratory protection or just those in the immediate area of the hazard?

Air quality is typically measured in parts per million (ppm) or milligrams per cubic meter of air (mg/m3). Specific guidelines are outlined in OSHA's Respiratory Protection Standard 29 CFR 1910.134.

LEVEL OF PROTECTION

Depending on the type of hazard, and level of exposure, you may need a specific style of respirator.

THERE ARE THREE MAIN TYPES:

Disposable, Half Mask, and Full Face.

Disposable respirators are the most basic form and provide short-term protection. They may not be suitable for all types of hazards.

Half mask and full face respirators are usually reusable and provide more protection. They also add the convenience of having replaceable filters to swap out for different protection needs.

For even more hazardous environments, there are also supplied air systems which completely supplement the air in the work environment for clean, safe air.

FILTERS

The filter of the respirator allows air to flow through, but blocks the hazards. Disposable respirators come with a built in filter, where half and full face respirators have removable filters which can be changed based on the hazard, or replaced when they become worn out.



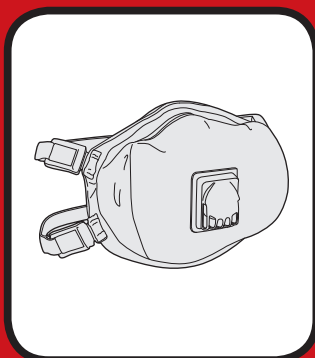
FILTERS CAN HAVE 1 OF 3 LETTER CLASS RATINGS:

- Class N - Not oil resistant
- Class R - Resistant to oil
- Class P - Oil proof

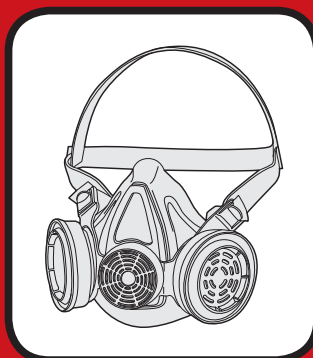
They also use a 3 number rating system, based on how well they filter particles measuring 0.3 microns or larger in diameter.

- 95 - Filters 95% of all particles
- 99 - Filters 99% of all particles
- 100 - Filters 100% of all particles.

These two filter classes are typically noted in this form: N95, P100, etc.



DISPOSABLE



HALF MASK

FIT

When wearing a respirator, it is essential that it fit correctly. A user should be fit to ensure that they have selected the proper size and style of respirator. This test should be administered by a trained person, and repeated regularly.

A seal check should be performed each time the respirator is donned, to check for gaps that allow air to pass between the face and the face seal.

STANDARDS

OSHA only allows respirators approved by the National Institute for Occupational Safety and Health (NIOSH) for workplace use.