



Respiratory Protection Air-Purifying Respirators

Safety precautions in the workplace have progressed significantly since the age of miners and different industrial employees suffering from fatal lung infections that reduced their lifespan, leaving their families without any income. One of the primary technological advancements that have kept industrial employees safe is the air-purifying respirator (APR).

The wide variety of respiration devices, utilized in situations involving low particle-levels, toxic gases, and vapors, is comprised of any apparatus that uses filtration to purify the surrounding air. Sometimes APRs are half-masks, protecting the nose and mouth, and sometimes providing full facial protection, including the eyes.

It is imperative to be familiar with the toxins in your specific workplace and to find out which APR is appropriate. Particle-Filtering Respirators This form of respirator contains a barricade to harmful particles and fibers such as dust, fumes, and mists that are encountered in a wide variety of industrial tasks and excavations.

The most basic APR's can be thrown away after use and are simply a loose-fitting mask over the mouth and nose. If they are not thrown away and replaced after a short period of time the pores of the mask get contaminated and blocked up, causing difficulty breathing. Even though expendable masks block out particles that aren't dangerous in very small quantities, there are other contaminants that they will not safely guard against (i.e. asbestos fibers). When dealing with these you will need an APR that is secured on the face and has cleanable or replaceable filters. These do not prevent gases and vapors. Vapor and Gas Removing Filters Gaseous and Vaporous fumes are expelled in the air and are too elusive to be trapped by the particle-filtration masks.

APR's designed especially for these chemicals and gases either use filtration cartridges or a canister that can alter the chemical makeup of the contaminant. Some cartridges are complex enough to take care of many dangerous vapors at one time and some have a particle barrier. A valve attached to the APR lets the exhaled breath release and then closes for inhalation. Change Cartridges or Filters Regularly Cartridges will wear out over time and should always be replaced accordingly with the appropriate cartridge for the specific respiration device. It is imperative to precisely follow instructions as individual cartridges should only be used for the hazard they were specifically designed for. It is also vital to make sure the mask is worn correctly and securely. At most times cartridge filters will be organized by a color code to identify what they can be applied in response to.

Good Maintenance

Always maintain cleanliness with your respirator and routinely inspect for fissures and dents. After use of the APR remember to practice positive/negative pressure inspections. Most importantly, if you experience any constriction of breathing or start to notice an aroma, aggravating effects, or the air you are breathing rises in temperature, retreat from the hazard-site right away. The APR could be dysfunctional or in need of a new cartridge and/or filter. This being said, do not refrain from routinely replacing parts to the mask as many toxins cannot be detected simply by smell or temperature. Your respirator may be defective or need a fresh cartridge or filter. Keep in mind that APRs are not designed for extremely hazardous settings or oxygen-deprived environments. Choosing the right respiration device for the situation you are in is essential to your safety. **Always maintain cleanliness with your respirator and inspect for fissures and dents.**