What is a respirator and what is a NIOSH-approved N-95 respirator?

A respirator is a personal protective device that is worn on the face, covers at least the nose and mouth, and is used to reduce the wearer's risk of inhaling hazardous airborne particles (including dust particles and infectious agents), gases, or vapors. The many types of respirators available include (1) particulate respirators, which filter out airborne particles; (2) "gas masks," which filter out chemicals and gases; (3) airline respirators, which use compressed air from a remote source; and (4) self-contained breathing apparatus, which include their own air supply. The category of particulate respirator can be further divided into (1) disposable or filtering facepiece respirators, where the entire respirator is discarded when it becomes unsuitable for further use due to excessive resistance, sorbent exhaustion, or physical damage; (2) reusable or elastomeric respirators, where the facepiece is cleaned and reused but the filter cartridges are discarded and replaced when they become unsuitable for further use; and (3) powered air purifying respirators (PAPRs), where a battery-powered blower moves the air flow through the filters.

An N-95 respirator is one of nine types of disposable particulate respirators. Particulate respirators are also known as "air-purifying respirators" because they protect by filtering particles out of the air as you breathe. These respirators protect only against particles—not gases or vapors. Since airborne biological agents such as bacteria or viruses are particles, they can be filtered by particulate respirators.

Respirators that filter out at least 95% of airborne particles during "worse case" testing using a "most-penetrating" sized particle are given a 95 rating. Those that filter out at least 99% receive a "99" rating. And those that filter at least 99.97% (essentially 100%) receive a "100" rating.

Respirators in this family are rated as N, R, or P for protection against oils. This rating is important in industry because some industrial oils can degrade the filter performance so it doesn't filter properly.* Respirators are rated "N," if they are Not resistant to oil, "R" if somewhat Resistant to oil, and "P" if strongly resistant (oil Proof). Thus, there are nine types of disposable particulate respirators:

- N-95, N-99, and N-100;
- R-95, R-99, and R-100;
- P-95, P-99, and P-100

NIOSH uses very high standards to test and approve respirators for occupational uses. NIOSH-approved disposable respirators are marked with the manufacturer's name, the part number (P/N), the protection provided by the filter (e.g., N-95), and "NIOSH." This information is printed on the facepiece, exhalation valve cover, or head straps. View a listing of all NIOSH-approved disposable respirators. If a disposable respirator does not have these markings and does not appear on one of these lists, it has not been certified by NIOSH.