Respiratory Protection: Overview

Handout

Working around dusts, mists, fumes, aerosols, gases, and vapors can be hazardous to your health. Depending on the contaminant, overexposure can cause lung disease; problems with the liver, kidneys, heart, or nervous system; or cancer.

To control contaminants, operations can be enclosed or confined, general and local ventilation can be installed, or less toxic materials can be substituted. If these controls do not eliminate the risk, wearing an appropriate respirator can protect you. Your company is responsible for determining when respirators are needed in the workplace.

Selecting a respirator

Selecting the right respirator is essential. In making the selection, several factors must be considered:

- Chemical identity and physical nature of the contaminants.
- Toxicity of the contaminants.
- Your exposure level - the concentration of the contaminants in the air, and the amount of time you will be exposed.
- Amount of oxygen present.
- The respirator's assigned protection factor and the maximum use concentration for the application.

Types of respirators

There are two basic types of respirators:

- Atmosphere-supplying.
- Air purifying.

Atmosphere-supplying respirators provide clean breathing air from a source that is separate from the contaminated area. They should be used when:

- There is not enough oxygen in the area.
- Contaminant concentrations are unknown.
- Contaminant concentrations are Immediately Dangerous to Life or Health (IDLH).

Air purifying respirators pass contaminated air through filters, cartridges, or canisters to clean the air as it is breathed. These only protect against certain contaminants and should not be used in an oxygen deficient or IDLH situation.