Administration of Industrial Safety and Health

OSHA: A federal agency that oversees the federal laws requiring employers to provide employees with a workplace free from hazardous conditions.

OSHA was created by law in 1970 to oversee workplace safety and health. Today, it covers more than 100 million employees and six and a half million employers. Miners, transportation workers, many public employees, and those who are self-employed are about the only ones not covered by OSHA. Businesses that use nonemployee workers, such as independent contractors or volunteers, are also not subject to OSHA. Workers are considered employees under OSHA if you:

- Control the actions of the employee,
- Have the power to control the employee's actions, and
- Are able to fire the employee or modify employment conditions.

OSHA itself employs more than 2,000 inspectors, plus hordes of investigators, engineers, physicians, educators and others in more than 200 offices nationwide.

OSHA has a number of rules regarding everything from asbestos to workplace violence. There are regulations on how to report injuries, document your safety program and on countless other topics, all of which vary by industry and even by the size of your firm. Many business people complain about the burdens of complying with OSHA rules, but there's no doubt that the end result--a safer workplace--is a worthwhile goal. There's also no doubt that compliance with OSHA is not optional.

The first step in complying with OSHA is to learn the published safety standards. The standards you must adhere to depend on the industry you're in. Every business has to comply with general industry standards, which cover things like safety exits, ventilation, hazardous materials, personal protective equipment like goggles and gloves, sanitation, first aid and fire safety.

Under OSHA, you also have a general duty to maintain a safe workplace, which covers all situations for which there are published standards. In other words, just because you complied with the standards that specifically apply to your industry doesn't mean you're off the hook. You also need to keep side by side of possible hazards from new technology or rare situations the government may have thought of and published standards for.

OSHA was established to:

- Reduce work place hazards and implement new or improved methods for work place safety and health

- Provide research data
- Maintain a recordkeeping and reporting system to monitor job related injuries and illnesses
- Establish training programs to increase the number and competence of the occupational and safety personnel
- Establish separate but dependent responsibilities and rights for employers and employees
- Develop mandatory job safety and health standards
- Provide for development, analysis, evaluation and approval of safety programs

Respiratory Protection

Occupational Safety and Health Administration publication 3079 defines a respirator as a device designed to protect the wearer from inhaling harmful dusts, fumes, vapors, or gases (OSHA 2002). Respirators have been developed by the military and private industry and therefore come in a wide range of types and sizes. They can be loose or tight fitting. Tight fitting respirators adhere closely to the skin and can cover just the mouth and nose or the entire face from the hairline to below the chin. Loose fitting respirators are typically hoods and helmets that cover the head completely and are often worn as a complement to a full body protection device. Respirators can be categorized as either air purifying or air supplied (OSHA 2002):

- **Air purifying respirators** use filters to remove harmful contaminants from inhaled air, and they range from simple dust masks to complex masks that filter a wide variety of harmful chemical contaminants. These respirators do not provide supplemental oxygen, and they are not recommended for use in oxygen deficient atmospheres or other atmospheres that are immediately dangerous to life or health. Examples of air purifying respirators are gas masks, chemical canister masks, and chemical cartridge masks.
- **Air supplied respirators** use an alternate source of breathable air to supplant the contaminated air. These range from supplied air respirators, that is, masks connected to flexible hoses that provide positive pressure breathable air, to self contained breathing apparatuses, that is, masks connected to a portable storage tank that provides positive pressure breathable air.

The selection of a respirator depends heavily on the environment in which the respirator is to be used, and the length of time for which the respirator is to be needed. Like all other forms of personal protective equipment, respirators often have targeted environments, where they operate most effectively. Particulate size, particulate concentration, and specific chemical compounds and vapors are just a few of the environmental characteristics that dictate the choice of respirator.

Usage time also dictates respirator selection. For example, supplied air respirators with their bigger breathable gas sources can provide relatively long periods of breathable air, while self contained breathing apparatuses and cartridge respirators provide shorter periods of respiratory protection, because they are limited by breathable air source capacity and cartridge life, respectively (OSHA 2002).