Basic Respiratory Protection



Key Takeaways:

– Understanding the purpose of using a respirator.
– Observing the factors that influence respirator effectiveness, the limitations and capabilities of respirators, and an employer’s responsibilities for respirator use in the workplace.
– Learning about how respirators are used in the workplace, including required medical evaluations, fit testing, inspection, seal checks, and maintenance and storage requirements.
– Recognizing when an employee should leave a respirator use area, the warning signs of an improperly functioning respirator, and the actions workers should take in an emergency situation.

Course Description

Annually, it is estimated that respiratory equipment prevents around 4,000 illnesses and 900 deaths.

Both on and off the job, the quality of the air we breathe has major implications for our respiratory health, which is why some regions in the United States alert local citizens when smog or air pollution reaches an unsafe level.

Specific industrial work environments endanger respiratory health; people who work in construction, manufacturing, agriculture, and other industries will be inevitably exposed to workplace respiratory hazards. These workers must be mindful of the air they are breathing because of tasks where irritating dust, chemical fumes, and other airborne contaminants are present in harmful concentrations, or where the percentage of oxygen is insufficient.

For this reason, OSHA requires employers to take the necessary precautions to control for respiratory hazards at worksites. The key rule is if an employer is incapable of eliminating respiratory hazards, the employer needs to provide employees with respirators to protect their health. Across jobs, there’s plenty to discuss about personal protective equipment and systems for safeguarding respiratory help.

The goal of OSHA’s respiratory protection standards is to prevent tragic workplace accidents and latent illnesses induced from exposure to respiratory hazards that workers may encounter on the job. There are numerous safety considerations around the vast category of airborne contaminants. In the case that you work in an environment that poses some respiratory risks, it’s likely that you’re aware of steps for

minimizing your risk of exposure, and familiar with some respiratory devices. Although, due to unpredictability, there is a lot to learn about protection from airborne contaminants, and it is important to know in what forms these hazards exist, where you're likely to find them, and how they physically behave. When you understand the properties of airborne contaminants, you are able to better apply appropriate measures to control them, avoid exposure, and treat symptoms.

Typically, depending on myriad factors, the effect on the body from inhaling a contaminant can be immediate or might not show up for many years, and symptoms can range from mild and temporary to severe, with permanent injury or even death.

Chronic exposure to respiratory hazards can manifest an illness which develops over many months or years. Usually, these respiratory injuries result from repeated exposure to low concentrations of a contaminant without the use of a respirator. With other illnesses, the effect of a respiratory hazard may be acute (i.e. the effect occurs immediately or very soon after exposure to a high concentration of a contaminant).

For your reference, OSHA defines an atmosphere that is an extreme threat to workers as an atmosphere "immediately dangerous to life and health" (IDLH). IDLH labelling is applied when exposure to the atmosphere would pose an immediate threat to life, would cause irreversible adverse health effects, or would interfere with an individual's ability to escape from the dangerous atmosphere.

The regular air that we breathe has an oxygen concentration of 20.9%. Conversely, an atmosphere is IDLH if the oxygen concentration is less than 14%. Although, even if oxygen concentration is normal, an atmosphere can still be IDLH in the case that the concentration of a toxic substance exceeds the IDLH exposure limit for that substance.

OSHA standards require all employers whose workers wear respirators at work to have a written respiratory protection program. Such programs must cover respirator selection, worksite-specific usage procedures, fit testing, training, cleaning and maintenance, and medical screenings. As well, employers need to evaluate the effectiveness of the company's respiratory protection program often and need to modify the program based on the evaluation results.