Silica Dangers

INCIDENT

Many workers have contracted silicosis. This is the reality that workers face who have contracted silicosis in their employment. These workers in the course of their work had to breath dangerous silica particles in the dusts from concrete and other stone products.

Silicosis is not the only respiratory disease that workers are exposed to, either. Asbestos exposures can lead to lung cancer and mesothelioma, and other inhaled particulates can lead to additional medical issues. Even chemical fumes and vapors can cause respiratory damage and disease. No one deserves to have this happen. The duty is to ensure that workers are properly protected from respiratory hazards.

NEED TO KNOW

How would you feel if you could never catch your breath? What would your life be like?

Imagine having these symptoms and you never smoke tobacco in your life.

BUSINESS / REGULATIONS

At the end of 2016, EPA named asbestos as one of the top 10 chemicals that pose a health and environmental risk.

But there was the game-changing election in November 9/16, and subsequent appointment of Scott Pruitt to oversee the EPA. The very man chosen to run the EPA also sued the E.P.A.

Mr. Pruitt’s tenure or head of the E.P.A was cut short and resigned his position amidst swirling controversies. But Pruitt’s departure does not signal the end of problems at the E.P.A.

The E.P.A is the principal agency in charge of superfund sites all over the U.S many of which are contaminated with asbestos and other deadly chemicals.

OSHA estimates that over 500,000 employees work with asbestos products. Millions more are exposed because they work near or around work areas where asbestos

products are used. Many thousands of members work on jobs which expose them to asbestos. Such members work with or around insulation materials or friction products like clutch facings and brake linings. In addition, many members who work at manufacturing, construction or renovation sites or perform telecommunications installation and service work in office buildings and private residences may be exposed to asbestos fibers released from building insulation.

In the U.S, 2.3 million people are exposed to silica while they work.

STATISTICS

Nearly 3,000 people are diagnosed with mesothelioma each year in the United States. That represents 0.02 percent of all U.S. cancer cases. A 2017 report from the CDC shows the death rate in the United States from 1999 to 2015 was around 8 deaths per million people.

Disease specialists did not track the death rates from asbestos cancers over a long period of time.

The latency period between the first exposure to asbestos and the diagnosis of a related cancer is usually between 25 and 50 years.

- The mesothelioma death rate is much higher among men. From 1999 to 2010, the age-adjusted death rate for men was 24.6 deaths per million, compared with 4.5 deaths per million for women.
- The rate for whites is more than double that of any other race. From 1999 to 2010, the age-adjusted death rate among whites was 13.9 deaths per million. The second highest rate was observed in American Indians or Alaska Natives (5.6 deaths per million), followed by Blacks or African Americans (5.4 deaths per million) and Asians or Pacific Islanders (3.3 deaths per million).
- The prevalence of asbestos use during the 20th century now poses serious risks, including death, for 1.3 million U.S. construction and general industry workers. Occupations such as plumbers, pipefitters and boiler makers, mechanical engineers, electricians and elementary school teachers are also at high risk.
- Research shows that the incidence of asbestos cancer in the United States likely peaked in 2010. People exposed to asbestos in the 1970s, when the U.S. government first began restricting asbestos use, continue to develop mesothelioma because of the disease’s decades-long latency period.
- Asbestos cancer cases among males peaked from 2008 to 2010, with more than 2,000 cases reported per year. The CDC predicts the number of cases should be on the decline, with an expected return to background levels by 2055. Mesothelioma cases among women are expected to increase slightly.

PREVENTION

Understanding Respiratory Hazards

It is not easy to tell when a person might be exposed to dangerous amounts of a respirable hazard. We can’t look at a cloud of dust and know whether it exceeds the permissible exposure limit (PEL) established by OSHA. The exposure can only be measured through air sampling and laboratory testing.

Workplace Safety Management Programs to Protect Against Respiratory Hazards

What can employers do to protect their employees from respiratory hazards? The first line of protection should be to eliminate or minimize exposure to the hazard through engineering and administrative controls. For example, the recent Silica standards include specific engineering controls based on tasks performed to eliminate or reduce exposures.

Administrative controls also provide ways to minimize an employee's exposure through employee scheduling and operational procedures. The last line of defense, as always, is personal protective equipment (PPE). PPE includes a variety of respirators that need to be specifically selected based on the exposures that employees will face.

When employees are required to wear respirators, either due to employer policy or to exposures exceeding the PELs, a written respiratory protection program must be in place. Workers must then be trained on the plan and the respirator, including proper use, limitations, and proper maintenance of the respirator. A designated and qualified program administrator must oversee the respiratory protection program, and is responsible for evaluating the program's effectiveness. All of this is to ensure the safety of our workers when they are exposed to potentially life-threatening respirable substances.

Choosing the Proper Respiratory Equipment for Workplace Injury Prevention

1. The **Filtering Facepiece Respirator,** also known as the dust mask, is the most basic form of respiratory protection. It provides the least amount of protection of all the respirators and protects employees from particulate exposures and nuisance dusts. If these are required, employees need to be trained to properly wear them and to check the fit of the masks. It's also imperative that employees are provided with, and know to use, the correct type of dust mask. They need to have a NIOSH label, and must have two straps; the single strap varieties are not adequate.
2. The next level of respirator is the **Air Purifying Face Fitting Respirator**. These form a seal with the user's face, only allowing the user to breathe air that has passed through the respirator's filters. Because of this, it provides considerably more protection than the dust mask. It can only filter out the particulates and substances that the filter is rated for. Before wearing this type of respirator, employees need to be medically cleared by a doctor, and need to be fit tested for the respirator before using it on the job. Fit testing needs to be re-evaluated annually, as well.
3. The most protective type of respirator is the **Air Supplying Variety**. Instead of filtering the contaminants from the air, these respirators provide air to the user from a cylinder, tank, or pump. Because of this, employees are not exposed to the hazardous air at all, and only to the controlled air source. While they greatly increase the amount of protection they provide to workers, they also require the most training, the most maintenance, and are the most expensive. They are usually very bulky and awkward, too, which makes some types of work even more difficult for an employee to perform.