

Facilities Safety

Toolbox Talk

Silica Dust Hazards

There has been much discussion about silica dust in the past few years. OSHA has issued a regulation to help protect workers from overexposure to this dust. It has been largely unregulated in the past and because of this, many workers have been faced with overexposure to silica dust. The CDC reports that an estimated 1.7 million U.S. workers are exposed to silica dust on the job.

What is Silica Dust and Where is it Found?

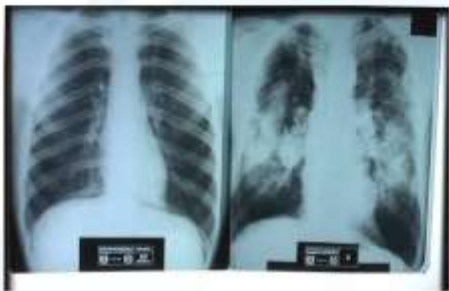
Crystalline silica is an important industrial material found abundantly in the earth's crust. Quartz, the most common form of silica, is a component of sand, stone, rock, concrete, brick, block, and mortar. Materials containing quartz are found in a wide variety of workplaces. Common industries and operation where crystalline silica is found include: construction, glass products, concrete products, foundries, cut stone products, railroad track maintenance, abrasive blasting, and many more. Occupational exposure to respirable crystalline silica occurs when cutting, sawing, drilling, and crushing of concrete, brick, ceramic tiles, rock, and stone products.



Health Effects and Illnesses Caused by Silica Dust

Silica dust is hazardous when very small respirable particles are inhaled. These respirable dust particles can penetrate deep into the lungs and cause disabling and sometimes fatal lung diseases, including silicosis and lung cancer, as well as kidney disease. Crystalline silica is 1 of 119 agents listed as “carcinogenic to humans”.

Protecting Workers Exposed to Respirable Crystalline Silica



WHAT IS SILICOSIS?

Silica is found in many rocks, sand, and construction materials. Silica dust is produced while drilling these materials. You can get a lung disease called silicosis by breathing very small silica particles into your lungs. These particles can be seen only with a microscope. Silicosis damages your lungs and makes it hard to breath, increases your risk of lung infections, and may lead to heart failure. Silica may also cause cancer.

Silicosis Can Be Prevented But Not Cured

Best Practices in Reducing Exposure to Silica Dust

- Eliminate the source of the dust whether that is through engineering controls or a change in work processes.
- Use collection or vacuum systems to collect dust at the point of operation to avoid suspended the dust in the air.
- Use wet methods when cutting or breaking any concrete or similar materials.
- Use water as a means of suppression for the dust on in work areas.
- Position drills with respect to prevailing winds whenever possible, and remain upwind of drill dust sources.
- Stay out of areas where silica dust levels are high as well as avoiding being downwind from these areas.
- Use proper respirators when engineering controls are not enough to protect you. When using a respirator, follow directions and guidelines that are based on OSHA or MSHA regulations.