Silica Checklist



About 2.3 million people in the U.S. are exposed to silica at work. Crystalline silica is a common mineral found in the earth's crust. Materials like sand, stone, concrete, and mortar contain crystalline silica. It is also used to make products such as glass, pottery, ceramics, bricks, and artificial stone. *Respirable* crystalline silica – very small particles at least 100 times smaller than ordinary sand you might find on beaches and playgrounds – is created when cutting, sawing, grinding, drilling, and crushing stone, rock, concrete, brick, block, and mortar. Activities such as abrasive blasting with sand; sawing brick or concrete; sanding or drilling into concrete walls; grinding mortar; manufacturing brick, concrete blocks, stone countertops, or ceramic products; and cutting or crushing stone result in worker exposures to respirable crystalline silica dust. Industrial sand used in certain operations, such as foundry work and hydraulic fracturing (fracking), is also a source of respirable crystalline silica exposure. About 2.3 million people in the U.S. are exposed to silica at work.
Workers who inhale these very small crystalline silica particles are at increased risk of developing serious silica-related diseases, including silicosis which causes great injury and death.
The following are the procedures which are designed to prevent silicosis in the workplace:

- Hazard Recognition is the first step in protecting workers, one that is often missed, according to silicosis experts. NIOSH recommends assessing the potential for worker exposure to crystalline silica before rock drilling or other possible exposures begin. "Keep your eyes open for any operation that produces fine dust," advises Tee Guidotti, MD, Ph.D., an occupational physician in the School of Medicine at George Washington University.
- Use Engineering Controls to reduce silica exposures, or find safer alternatives.
- Conduct Air Sampling to measure worker exposures.
- Regular Medical Examinations must be provided to any worker exposed to silica.
- Educate Workers about health effects, work practices and personal protective equipment for silica.
- Wear Washable Protective Clothes or clothes that can be disposed of at the worksite. Shower and change into clean clothes before leaving the worksite to prevent the contamination of cars, homes and other work areas.

- Use Respiratory Protection as a last line of defense if silica exposures cannot be kept below NIOSH’s recommended exposure limit of 0.05 mg/m3. Consult OSHA’s Respiratory Code.
- Store silica if it is found in large quantities.
- Don’t smoke as exposure to both cigarettes and silica dust result in more severe lung disease than silica alone.
- Isolate work processes that produce silica dust.
- Wash hands and face before eating, drinking or smoking following exposure.