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Controlling Silica Dust

Silica dust can be a serious problem in the workplace.

The best-known and most abundant type of crystalline silica is quartz. Some common silica-containing materials include:

- concrete, concrete block, cement and mortar
- masonry, tiles, brick, refractory brick
- granite, sand, fill dirt, top soil
- asphalt containing rock or stone
- abrasive used for blasting

If workers one of the following activities, they are at risk of breathing silica dust:

- chipping, sawing, grinding, hammering and drilling of rock, concrete or masonry structures
- crushing, loading, hauling, and dumping of rock
- many building demolition processes
- power cutting or dressing stone
- façade renovation including tuck point work
- abrasive and hydro blasting of concrete
- clean-up activities such as dry sweeping or pressurized air blowing of concrete or sand dust
- tunneling, excavation and earth moving of soils with high silica content.

Silica Dust Causes Silicosis

Silicosis is a disease caused by the prolonged breathing of crystalline silica dust. The fine particles are deposited in the lungs causing thickening and

scarring of the lung tissue. Crystalline silica exposure has also been linked to lung cancer.

What can employers do protect workers from silica dust?

Change the material (e.g., substitute crushed glass, olivine or other material for silica sand in abrasive blasting)

Change the process (e.g., design buildings with pre-built recesses for plumbing, gas and electric wiring so there is less need for masonry and concrete to be cut or drilled)

Provide engineering controls (e.g., use local exhaust ventilation or water spray systems to reduce dust)

Provide appropriate personal protective equipment (PPE) such as respirators and protective clothing.

Train workers on the dangers of silica exposure, and how to use dust controls and PPE.

Develop and implement an exposure plan for silica. An effective plan must include purpose and responsibilities, risk assessment, controls, education, training, written safe work procedures, washing or decontamination facilities, health monitoring, and documentation.

More Information

WorkSafeBC at the request of COCA, has produced an excellent information bulletin on silica dust. Sample Exposure Control Plans are also available. This COCA Update summarizes the information. Contractors are encouraged to view the entire document or download it from:

<http://www2.worksafebc.com/publications/posters.asp?reportID=35498>