

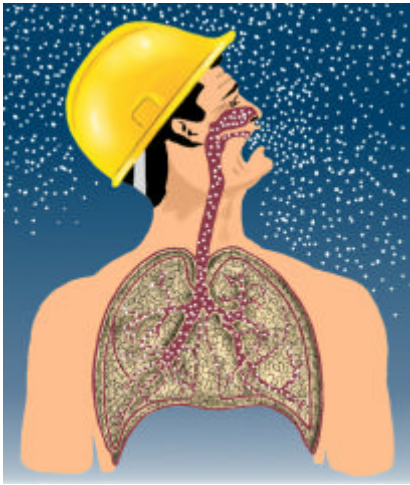
MASONRY TRADE SAFETY ADVISORY

SILICA EXPOSURE

In the masonry industry, lung diseases caused by exposure to crystalline silica dust have long been recognized as a serious health problem.

Silica is present in rock and sand in large quantities. Masonry products such as concrete block, brick, mortar, and cement contain silica. If any of these materials are sawed, hammered, ground, or sanded without dust control, very high levels of fine silica particles can be released into the air.

WHAT WILL HAPPEN TO YOU?



Unprotected workers performing, or working close to, activities that generate silica dust are likely to inhale silica particles into their lungs. Over time, scarring and lumps can form in the lungs making it very difficult to breathe. The disease that results from breathing silica is known as *silicosis*.

Silicosis is a disabling, non-reversible, often deadly lung disease. The disease gets worse over time. Symptoms range from none in the early stages to severe breathing problems in the later stages. Many workers with silicosis develop other health problems such as tuberculosis and lung cancer. (Beach sand is not hazardous, because the grains are large and cannot be deeply inhaled.)

WHAT EXPOSURES ARE ACCEPTABLE?

Workers can develop silicosis when exposed to low concentrations over a long period or a high concentration over a short period. As the amount of silica inhaled into the lungs increases, the risk of developing silicosis also increases.

Whenever concrete or masonry is sawed, ground, drilled, or jack-hammered without dust collection or water spray, masonry workers may be exposed to silica dust well above the level set by the Ontario Ministry of Labour to protect workers.

WHAT CAN BE DONE TO PROTECT WORKERS?

- Use WATER whenever possible to control dust. Wet cutting and other wet processes should keep dust levels very low.



Figure 1: Little dust produced by wet cutting



Figure 2: Much more dust produced by dry cutting

- If the use of water is not practical, then a dust collector attached to the tool should be used.
- Appropriate respirators should only be used if no other method of control is available to protect workers.
- Change contaminated coveralls at the worksite. Do not take contaminated clothes home!
- Do not eat, drink, or use tobacco products in or near dusty areas. Always wash up before eating, drinking, or smoking.

WHAT DO I NEED TO KNOW ABOUT RESPIRATORS?

- The type of respirator used will depend on the level of silica in the air. As a minimum, a half-facepiece N100 respirator should be used. As the amount of silica dust increases, the respirator must offer more protection. For example, dry cutting masonry stone over a prolonged period may require a full-facepiece respirator instead of a half-facepiece respirator. A half-facepiece respirator only fits over nose and mouth whereas a full-facepiece respirator fits over eyes, nose, and mouth and offers better protection.
- Workers must be trained in the proper way to use a respirator and must understand the health reasons for always wearing it.
- Workers must be fit-tested to ensure that the respirator makes a proper seal with the face. Fit-testing and training must be done by a competent person familiar with the selection, care, and use of respirators.
- Respirators must have a National Institute of Occupational Safety and Health (NIOSH) approval number on them. Paper masks or surgical masks without a NIOSH approval number must **NOT** be used because they do little to protect the worker.
- Workers must be clean-shaven when wearing respirators. Beards, even stubble, will allow some dust to bypass the respirator and be inhaled.



Protect your lungs—wear your respirator.

REMEMBER: Silica can kill and there is no pill to cure this ill.

PROTECT YOURSELF