



SILICOSIS PREVENTION

There is a general lack of awareness about the nature of the disease silicosis and about the sources of silica exposure in the worksite. More than 1 million U.S. workers are exposed to crystalline silica (free silica). Overexposure to crystalline silica can cause silicosis, a disabling lung disease.

Sand, rock, and soil are the most common materials that contain silica. The most common form of crystalline silica is known as quartz. Inhalation of airborne dusts that contain crystalline silica can occur in a wide variety of settings: mining, quarrying, and stone cutting; foundry operations; paint blasting and sand-blasting; glass manufacturing and etching; and in some types of construction work.

When might you expect silica exposure?

- During work with dry sand, quartz, or clay that contains silica
- During demolition of concrete, brick, and mortar
- During drilling of quartz-containing rock, clay, or sandy soil
- During dry sweeping of concrete, rock, clay, or sand dust

Inhalation of crystalline silica can lead to chronic or accelerated silicosis. Chronic silicosis, the most common form of the disease, usually occurs after 10 or more years of overexposure. As silicosis progresses, symptoms appear such as severe cough and shortness of breath following physical exertion. Without adequate dust controls, tunnel construction workers may develop accelerated silicosis, which results from very high silica exposures and develops over a period of only 5-10 years.

There are many things that employers and workers can do to help prevent silicosis, including:

- Control overall dust exposures by minimizing the dust around work areas.
- Substitute less hazardous abrasive-blasting materials for those containing crystalline silica.
- Install engineering controls (local exhaust ventilation) and containment methods (blast-cleaning machines and cabinets) to prevent dust from being released into the air.
- Train workers about health effects of silica dust and good work practices that reduce dust.
- Wet down surfaces before clean up.

- Use vacuums with high-efficiency particulate air (HEPA) filters or wet-sweeping for clean up.
- Never dry sweep or blow dust with compressed air.
- Wear respirators, where necessary, to avoid breathing dusts.
- Be aware that the highest silica concentrations may occur inside enclosed areas during tasks such as concrete or masonry sawing or abrasive blasting. Wear air-supplied respirators under high dust conditions.
- Shower or wash up and change into clean clothes before leaving the worksite.

The keys to preventing silicosis are to minimize the amount of silica-containing dust in the air and to avoid breathing silica-containing dust. There is no cure for the disease once it develops, but it is 100 percent preventable if employers and workers work together to minimize exposures.