

Sources of Exposure

- Sandblasting for surface preparation.
- Chipping, sawing, hammering, and drilling in rock, concrete, brick, or masonry.
- Crushing, loading, hauling, and dumping of rock and concrete.
- Demolition of brick, concrete, or masonry.
- Dry sweeping concrete, sand, or rock dust.
- Trenching and excavation.
- Masonry and concrete work (e.g., building and road construction and repair).
- Mining/tunneling.
- Concrete and asphalt pavement manufacturing.



Preventing Silicosis

- Use all available engineering controls such as blasting cabinets and local exhaust ventilation. Avoid using compressed air for cleaning surfaces.
- Use water sprays, wet methods for cutting, chipping, drilling, sawing, grinding, etc.
- Substitute non-crystalline silica blasting material.
- Use respirators approved for protection against silica; if sandblasting, use abrasive blasting respirators.
- Do not eat, drink or smoke near crystalline silica dust.
- Wash hands and face before eating, drinking or smoking away from exposure area.



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Silica
IN
CONSTRUCTION

Protect Yourself



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SILICA IN CONSTRUCTION

What is crystalline silica?

Crystalline silica is a basic component of soil, sand, granite, and most other types of rock, and it is used as an abrasive blasting agent. Quartz is the most common form of crystalline silica. Cristobalite and tridymite are two other forms of crystalline silica. All three forms may become respirable sized particles when workers chip, cut, drill, or grind objects that contain crystalline silica.

Effects of Silica

- Silicosis—a progressive, disabling, and often fatal lung disease. Cigarette smoking adds to the lung damage caused by silica.
- Lung cancer – Silica has been classified as a human lung carcinogen.
- Bronchitis.
- Chronic Obstructive Pulmonary Disorder.

- Tuberculosis.
- Scleroderma – a disease affecting skin, blood vessels, joints and skeletal muscles.
- Stomach and other cancers
- Possible renal (kidney) disease.

SILICOSIS

Protect Yourself

Silicosis is caused by exposure to respirable crystalline silica dust.

Types of Silicosis

- **Chronic Silicosis**—the most common form, occurs after 15-20 years of moderate to low exposures to respirable crystalline silica.
- **Accelerated Silicosis**—can occur after 5-10 years of high exposures to respirable crystalline silica.

A 39 year old sandblaster was diagnosed with silicosis and tuberculosis after years of unprotected abrasive blasting. He began noticing gradual shortness of breath, wheezing, and chest discomfort. Lung tissue samples showed extensive silicosis.

- **Acute Silicosis**—occurs after a few months to two years following exposures to extremely high concentrations of respirable crystalline silica.



Symptoms of Silicosis

- Shortness of breath; possible fever.
- Fatigue; loss of appetite.
- Chest pain; dry, nonproductive cough.
- Respiratory failure, which may lead to death.