



Weekly Safety Meeting

Your Safety Is Our Business®

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Silica Dust Hazards

Silica exposure remains a serious threat to nearly 2 million U.S. workers, including more than 100,000 workers in high risk jobs such as abrasive blasting, foundry work, stonecutting, rock drilling, quarry work, and tunnelling.

Crystalline silica is a basic component of soil, sand, granite, and many other minerals. The dust may become respirable size particles when workers chip, cut, drill, or grind objects that contain crystalline silica.

Crystalline silica has been classified as a human lung carcinogen. Additionally, breathing crystalline silica dust can cause silicosis, which in severe cases can be disabling, or even fatal.

The respirable silica dust enters the lungs and causes the formation of scar tissues, thus reducing the lungs' ability to take in oxygen. There is no cure for silicosis. Since silicosis affects lung function, it makes one more susceptible to lung infections like tuberculosis. In addition, smoking causes lung damage and adds to the damage caused by breathing silica dust.

Chronic/classic silicosis, the most common type, occurs after 15-20 years of moderate to low exposures to respirable crystalline silica. Symptoms associated with chronic silicosis may or may not be obvious: therefore, workers need to have a chest x-ray to determine if there is lung damage. As the disease progresses, the worker may experience shortness of breath upon exercising and may have clinical signs of poor oxygen/carbon dioxide exchange. In the later stages, the worker may experience fatigue, extreme shortness of breath, chest pain, or respiratory failure.

Silica:

Silica is the basic component of sand and rock. 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 and tiles;
- Brick, refractory brick;
- Composite products such as Hardiplank;
- Granite, sand, fill dirt, top soil;
- Asphalt containing rock or stone; and
- Abrasive used for blasting.



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Silica Dust Exposure:

If you do one of the following activities, you are at risk of breathing silica dust:

- Chipping, sawing, grinding, hammering, and drilling of rock, concrete, or masonry;
- Crushing, loading, hauling, and dumping of rock;
- Sawing, hammering, drilling, grinding, and chipping of concrete or masonry structures;
- Demolition of concrete or masonry structures;
- Power cutting or dressing stone;
- Facade renovation, including tuckpoint work;
- Abrasive blasting and hydroblasting of concrete;
- Clean-up activities such as dry sweeping or pressurized air blowing of concrete or sand dust; or
- Tunneling, excavation, and earth moving of soils with high silica content.

Silica Controls:

- Replace crystalline silica materials with safer substitutes.
- Use engineering controls, such as local exhaust ventilation and blasting cabinets.
- Use protective equipment or other protective measures to reduce exposures below PEL.
- Use work practices controls, such as water sprays, when cutting bricks and blocks.
- Wear only N95 NIOSH certified respirators, if respiratory protection is required.
- Do not alter the respirator.
- Wear only a Type CE abrasive-blast supplied-air respirator for abrasive blasting.
- Shower if facilities are available and vacuum the dust from your clothes or change into clean clothing before leaving the worksite.
- Participate in training, exposure monitoring, and health screening and surveillance programs to monitor any adverse health effects caused by crystalline silica exposures.
- Do not eat, drink, apply cosmetics, or smoke in areas where crystalline silica dust is present.

There is no known cure for silicosis. If you are diagnosed with this disease it is likely you will eventually die from it. Working safely and preventing Silica dust from entering your lungs is the only way to be sure you won't develop this awful disease.

Remember: If it's silica...it's not just dust!!



