Dust Off Your Knowledge of Silica



Safety Talk

Common rock dust is dangerous, if it contains the crystalline form of silica. Silica is Earth’s second most common mineral, abundant in sand and rocks.

Silica causes lungs to scar and develop nodules which block extraction of oxygen from air. Each year more than 250 American workers die from silicosis, the disease caused by inhaling tiny silica particles. Silicosis has been linked to other lung conditions including bronchitis and tuberculosis. Silica dust in your lungs may overwhelm your defenses against infections.

Symptoms of silicosis are :

- Severe cough
- Shortness of breath after exercise
- Loss of appetite
- Fatigue
- Chest pain
- Fever
- Weight loss
- Bluish skin on lips or earlobes

Depending on the concentration inhaled, the disease shows up as one of three types:

- **Chronic silicosis** is the most common. It can go undetected for years. Symptoms generally appear after 10 or more years of exposure.
- **Accelerated silicosis** is a result of exposure to higher concentrations and develops over five to 10 years.
- **Acute silicosis** occurs with breathing the highest concentrations of silica. Symptoms can develop within a few weeks of exposure, or during the next five years. In the United States, more than 100,000 workers are in jobs at high risk for exposure to silica. Sandblasting is the most risky, along with work involving drilling, jack hammering, masonry, demolition, grinding and mining. Manufacturers of glass, ceramics and abrasives may be exposed.

There is no cure, but silicosis is preventable by reducing exposure to the dust.

Smoking increases the damage in lungs scarred by silica.

Here’s what you can do to prevent silicosis:

- Use exhaust ventilation and dust collection systems. Tell your employer if equipment isn’t working so it can be repaired.
- Do wet sweeping instead of dry.
- Remove silica dust with a water hose or a high-efficiency particulate filter vacuum.
- If respirators are needed, use approved types. Keep the respirator clean and maintained.
- Observe warning signs identifying areas where silica could be inhaled.
- Wash hands and face before eating or drinking. Don’t eat, drink or smoke in the work area.
- If possible, change into disposable or washable clothes at the worksite; shower and change clothing before leaving.

The National Institute for Occupational Safety and Health (NIOSH) recommends using a substitute for crystalline silica sand in abrasive blasting.