



077: Silica Dust

Basic facts

Dust exposure on the job is a health risk. However, one particular kind of dust is a major hazard. That dust is silica dust. Free crystalline silica exists in sand, granite, sandstone, flint, slate, and other materials.

Inhalation of silica dust can begin a process that results in full-blown silicosis. Silica inhaled into the lungs collects and causes inflammation. The body reacts and creates fibrotic nodules—essentially scar tissue—around the silica particles. Eventually, these hard nodules grow and collect together, making breathing difficult. Silicosis is non-reversible.

Chronic silicosis can take 10 to 40 years to develop, but high concentrations can produce severe symptoms in much less time—such as just a few weeks. Acute silicosis can occur after a single heavy dose to a high concentration of silica dust.

Every death from silica dust inhalation was, and is, preventable. It is up to you to prevent silica dust inhalation and to respond properly if it does occur.

High-risk situations

You are at high risk if any of the following activities take place near your work area:

- Cement mixing, grinding, or cutting. This includes concrete, masonry, and other mineral-based materials.
- Jackhammering.
- Sandblasting.

Know your enemy

Investigations into cases of acute silicosis reveal that workers remember being covered with silica dust or being in dust so thick they couldn't see. This happened often when cutting through something like cement.

If you experience such a situation, be alert for the following conditions: chest pains, shortness of breath whether after physical exertion or not; a dry, hacking cough; fatigue; fever; or loss of appetite. Put two and two together and make the earliest possible appointment with a doctor who specializes in diagnosing silicosis and similar disorders.

Very few doctors have the training and resources that would allow them to make an early diagnosis of silicosis. Do not accept the opinion of a generalist or a doctor who specializes in another field. They don't know. Avoid any exposure to high-silica dust areas, even with a respirator, until you have the advice and recommendations of the safety specialist.

Protection

If you work in a situation where you are exposed to silica dust, don't smoke—even off the job. Though a hazard in its own right, smoking compounds the problems associated with silica dust inhalation. Not smoking can mean the difference between having a mild inflammation and being totally debilitated.

When you are around any cutting operation that involves minerals, wear a respira-

Discussion leader duties for this session:

Walk through the job site and look for dust sources. Ask crewmembers if they can remember any high-dust situations recently on the job.

What this Safety Talk covers:

The extreme dangers of silica dust exposure and what to do about them.

Discussion notes :

