



HEALTH & SAFETY

Silica Dust



Reason for Talk

Breathing in silica dust must be prevented or controlled.

Why

Inhalation of silica dust can lead to long-term health issues.

Outline

This talk covers sources of silica dust, associated risk and how to control exposure.

Defining Silica

1. Crystalline silica is a basic component of soil, clay, sand, shale, slate, granite and many other minerals, including components used to make concrete and mortar.
2. Quartz is the most common form.
3. Many materials in the construction industry contain crystalline silica, including bricks and concrete blocks.
4. When workers chip, cut, drill, grind, grit blast, scabble or tunnel through objects that contain crystalline silica the particles can become small enough to breathe in.
5. The use of power tools can lead to high exposure if exhaust systems or wet-cutting processes are not used or maintained.

Health Hazards and Symptoms

1. Crystalline silica has been classified as a human lung carcinogen.
2. Breathing crystalline silica dust can also cause silicosis, which, in severe cases, can be disabling or even fatal.
3. When silica dust enters the lungs it causes scar tissue, reducing the ability of the lungs to take in oxygen.
4. There is no cure for silicosis. Since silicosis affects lung function, it makes a person more susceptible to lung infections like tuberculosis.
5. In addition, smoking causes lung damage and adds to the damage caused by breathing in silica dust.

Preventative and Protective Measures

1. Replace crystalline silica materials with safer substitutes whenever possible.
2. Use engineering or administrative controls (such as local exhaust ventilation and wet cutting).
3. Use appropriate and suitable RPE to reduce exposures to a safe level, where necessary.
4. Wear disposable or washable work clothes and use shower facilities, if they are required.
5. Participate in training, exposure monitoring, and health screening and surveillance programmes to monitor any adverse health effects caused by exposure.
6. Be aware of the tasks creating crystalline silica dust and consider who may be affected, including the general public.

Do not eat, drink or smoke in areas where crystalline silica dust is present. Wash your hands and face outside dusty areas before performing any of these activities.

Questions

1. If you are asked to mechanically cut a kerbstone with a petrol-powered saw, what precautions should you take to protect yourself?
2. Why is it important to consider members of the public when creating dust by cutting with a power saw?
3. What PPE and RPE should you wear when cutting or chasing concrete?
4. Why is it important not to eat, drink or smoke in dusty areas?