



## Silica Fact Sheet

### What is silica?

Crystalline silica is the name for a group of minerals containing silicon and oxygen that is arranged in a specific pattern. Crystalline silica exists in several forms, including quartz, cristobalite and tridymite. Of these forms, quartz is the most common. Silica is the second most common mineral in the Earth's crust and is a major component of sand, rock and mineral ores.

### How are employees exposed to silica?

Working in a dusty environment where crystalline silica is present can increase a workers chance of getting silicosis. Some examples of the industries and activities that pose the greatest potential risk for worker exposure include:

- construction (sandblasting, rock drilling, masonry work, jack hammering, tunneling)
- glass manufacturing
- agriculture (dusty conditions from disturbing the soil, such as plowing or harvesting)
- stone cutting (sawing, abrasive blasting, chipping, grinding)
- asphalt paving products
- foundry work (grinding, moldings, shakeout, core room)
- shipbuilding (abrasive blasting)
- ceramics, clay and pottery
- manufacturing of soaps and detergents
- manufacturing and use of abrasives

### How does silica exposure affect me?

Exposure to high levels of crystalline (quartz) silica can cause silicosis. Silicosis is a disabling, nonreversible and sometimes fatal. Overexposure to dust that contains microscopic particles of crystalline (quartz) silica can cause scar tissue to form in the lungs, which reduces the lungs' ability to extract oxygen from the air we breathe.

There are three types of silicosis, depending upon the airborne concentration of crystalline silica to which a worker has been exposed:

- **Chronic silicosis** usually occurs after 10 or more years of overexposure.
- **Accelerated silicosis** results from higher exposures and develops over five to 10 years.
- **Acute silicosis** occurs where exposures are the highest and can cause symptoms to develop within a few weeks or up to 5 years.



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### What should I do to protect myself?

Personal protective equipment should be used to prevent or minimize exposure. Eye protection should be worn. Respiratory protection may be needed if exposure levels exceed the permissible exposure limits. Employees performing abrasive blasting must wear a Type CE abrasive-blast supplied-air respirator.

### Are there OSH standards for silica?

Yes, the following OSH standards contain permissible exposure limits (PELs) for silica:

- **29 CFR 1910.1000, Table Z-3**—general industry
- **29 CFR 1915.1000, Table Z-3 Mineral Dusts**—maritime industry
- **29 CFR 1926.55, Appendix A, Mineral Dusts Table**—construction industry

### Where can I find additional information?

Please review our [Silica Subject Index](#) page.