

## Silica Dust

Crystalline silica is a common mineral that is a natural part of the Earth's crust. It is found in materials like soil, sand, and stone, and is used to produce many man-made materials like concrete, bricks, and glass.

Inhaling silica dust can be harmful to humans. These particles are very small, about 100 times smaller than a grain of sand, so are not visible to the naked eye. Short-term exposure poses little risk. Long-term exposure can result in serious illness, including silicosis, lung cancer, chronic obstructive pulmonary disease, and kidney disease.

Effective September 23, 2017, the Occupational Safety and Health Administration (OSHA) issued a new respirable crystalline silica standard for construction. In the wood flooring industry, the most common sources of silica dust are from grinding concrete to level a concrete subfloor in preparation for wood flooring installation, mixing self-levelers and patches to level a subfloor in preparation for wood flooring installation, and existing tile demolition.

Under the new rules, OSHA limits silica exposure levels to 50 micrograms per cubic meter of air per eight-hours. To meet these requirements, floor grinders must be used according to manufacturer recommendations to minimize dust emissions. Dust collection systems must provide air flow as recommended by the manufacturer, and have a filter with ≥99% efficiency and a filter-cleaning mechanism. In enclosed areas, exhaust systems must be used to minimize dust accumulation, and a HEPA-filtered vacuum must be used to remove loose dust in between each pass. Dry sweeping and the use of compressed air dust to remove silica dust should be avoided.



In addition, employers must:

- Establish and implement a written exposure control plan.
- Designate someone to monitor the plan.
- Restrict practices that increase exposure.
- Offer medical exams for exposed employees.
- Train workers to identify and limit exposure.
- Maintain records for exposure, medical exams, and other related data.

Failure to comply with the regulation can result in significant fines ranging into the tens of thousands of dollars.

**More-detailed information about the Respirable Crystalline Silica Standard for Construction is available from OSHA at [www.osha.gov/Publications/OSHA3902.pdf](http://www.osha.gov/Publications/OSHA3902.pdf).**