

March 2022

OVERVIEW OF FACT SHEET

The purpose of this fact sheet is to inform the campus community about the hazards associated with exposure to silica containing dust and what they can do to minimize exposure.



For a list of responsibilities and compliance requirements, please review the EHS Crystalline Silica Exposure Control Plan located on the EHS website.



If you have any questions regarding safety, please contact your supervisor and/or the [Environmental Health and Safety Office](#) at 704-687-1111.

Crystalline Silica Safety

- **What is Crystalline Silica?** – Crystalline Silica is a common mineral found in many naturally occurring materials and used in many industrial products and at construction sites. Materials like sand, concrete, stone, and mortar contain crystalline silica. Crystalline silica is also used to make products such as glass, pottery, ceramics, bricks, paint and artificial stone. Amorphous silica, such as silica gel, is not crystalline silica.
- **What is “respirable” crystalline silica?** – Quartz, cristobalite, and/or tridymite containing airborne particles that are determined to be respirable (breathable) based on particle size (typically smaller than 10 micrometers).
- **What is exposure to crystalline silica?** – Exposure occurs when you breathe in the silica containing dust particles. These particles, once inside the lungs, can lead to serious health effects. Exposures can be monitored by contacting EHS.
- **Exposure limitation** - OSHA has established a “Permissible Exposure Limit” or PEL of 50 micrograms per cubic meter of air, averaged over an 8-hour shift. Where exposures may be above the PEL, controls are required by the OSHA silica standard.
- **Health effects of exposure to crystalline silica** – Inhaling respirable crystalline silica particles can cause multiple diseases, including silicosis, an incurable lung disease that can lead to disability and death. Respirable crystalline silica may also cause lung cancer, chronic obstructive pulmonary disease (COPD), and kidney disease.
- **What activities expose workers to silica dust?** – Mixing dry materials that contain Silica; Sawing, Drilling or Cutting Masonry, Concrete, Brick, etc.; Jackhammers; Excavators; Recycling Equipment; Demolition Equipment; Sandblasting; Working with Pottery, Ceramics, or Glass; and assorted Housekeeping Activities.
- **Methods of exposure control** – Depending on the specific tasks or work activities, dust exposures may be controlled in a number of ways including: Dust suppression (wet cutting methods, surfactants, etc.), Vacuum Dust Collection (VDC, HEPA), OSHA Approved Respiratory Protection, Ventilated Booths, Operator Isolation, Fans, Other methods.
- **Housekeeping** – Where such activity could contribute to employee exposure to respirable crystalline silica: No dry sweeping or dry brushing, No using compressed air to clean clothing or surfaces (unless used in conjunction with a ventilation system that effectively captures the dust)
- **Medical Surveillance** – Medical examinations will be offered to workers who will be required to wear a respirator under the standard for 30 or more days a year. Exam includes medical and work history, physical exam, chest X-ray, and pulmonary function test (TB test on initial exam only).
- **Regulated Areas/Warning Signage** – Regulated areas are workplace areas where exposures to respirable crystalline silica are, or can reasonably be expected to be, above the PEL. Signs will be posted to demarcate regulated areas.
- **Written exposure control plan** – A written exposure control plan has been developed by EHS and is available to describe control methods and procedures.
- **Training** – Training is required for those employees who are exposed to silica dust above PEL concentrations.