

April 2025

OVERVIEW OF FACT SHEET



This fact sheet provides general awareness as to what Respirable Crystalline Silica is, how it's used, how it affects the body, and how exposure may be avoided. Please remember that **it is your responsibility as an employee** to follow safe working practices and report any unsafe conditions to your immediate supervisor.



Environmental Health and Safety (EHS) can assist the campus community by completing lead exposure sampling, recommending engineering controls, PPE, and providing lead product disposals.

If you have any questions regarding silica or other safety topics, please contact the <u>Environmental Health and</u> <u>Safety Office</u> at 704-687-1111. Please visit our website (<u>safety.charlotte.edu</u>) to review material on additional safety and regulatory topics.

Crystalline Silica Safety

What is Respirable Crystalline Silica?

Crystalline Silica is a common mineral found in many naturally occurring materials and is used in many industrial products. Materials like brick, sand, concrete, stone, and mortar contain crystalline silica. It is also used in the production of glass, pottery, ceramics, bricks, paint and artificial stone. When agitated or broken, these materials can shatter into tiny particles, some of which are small enough to be inhaled. These fine particles are called Respirable Crystalline Silica (RCS). Amorphous silica, or silica that is not crystalline, is not RCS.

Routes of Exposure.

Exposure occurs when tiny RCS particles are inhaled. These particles are typically smaller than 10 micrometers and once they are inhaled, they cannot be removed from the lungs.

Health Hazards:

- Silicosis an incurable lung disease that can RCS to disability or death
- Lung Cancer
- Chronic Obstructive Pulmonary Disease (COPD)
- Kidney Disease

Permissible Exposure Limit (PEL)

OSHA has established a 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.

Potential RCS exposure activities:

- Mixing dry materials that contain crystalline silica, such as clays or cement
- **Sawing, drilling, cutting** or otherwise damaging masonry, concrete, brick, rock or other RCS containing materials
- Sandblasting
- Working with pottery, ceramics or glass
- Sieving

How to protect yourself and others from RCS exposure:

RCS can be controlled in a variety of ways, including:

- Dust suppression (wet cutting methods, surfactants, etc.)
- Vacuum Dust Collection (HEPA filters)
- Operator Isolation
- Respiratory Protection
- Do not dry sweep or use compressed air to clean dusty surfaces
- **Pre-project planning** Check with EHS prior to starting to determine if any of the material you will be working with contains RCS.
- If you are unsure if RCS exposure is possible STOP and contact EHS for assistance.
- When working with products that contain RCS Appropriate PPE, such as respirators, can greatly reduce the chance of exposure to RCS. Contact EHS for assistance with respirator requirements.
- Proper Signage While working in areas where exposure may exceed the Permissible Exposure Limit (PEL), ensure proper signage to warn others.