



DEPARTMENT OF  
**ENVIRONMENTAL  
HEALTH AND SAFETY**

# EHS BULLETIN

**MAY 2023**

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## RESPIRABLE SILICA

Silica is a common mineral found in the earth's crust. Many materials we surround ourselves with daily contain silica; this includes sand, stone, concrete, and mortar. Even items such as glass, pottery, ceramics, bricks, and artificial stone all contain silica.

Respirable crystalline silica are very tiny particles that are 100 times smaller than a grain of sand, and if inhaled, travel deep into the lungs. Crystalline silica is created during construction activities such as grinding, drilling, sawing, abrasive blasting, and crushing stone, bricks, or concrete.

### WHO IS EXPOSED?

- Around 2.3 million people in the United States are exposed to silica at work.
- These jobs may include construction activities, industrial settings, foundry work, and rock quarries.
- Large quantities of silica that are produced by these activities can drift to members of the public who are not directly involved in the work. This type of exposure over a large period of time can have a significant health impact.

### HEALTH EFFECTS

Exposure to respirable crystalline silica can put an individual at risk for severe health issues including:

- Silicosis – incurable lung disease that leads to disability and death
- Lung cancer
- Chronic Obstructive Pulmonary Disease (COPD)
- Kidney disease

### TIPS FOR PROTECTING YOURSELF AND OTHERS:

- Follow OSHA's silica standard for construction activities – 29 CFR 1926.1153.
- When performing work with risks of silica, use OSHA's Table 1 to determine how to eliminate silica exposure.
- Use wet methods or vacuum dust collection to control silica dust at the source.
- Respirators may be used in accordance with Table 1; however, a respiratory protection program must be in place to ensure proper usage. All OSU employees who use respirators must be enrolled in the Oklahoma State University Respiratory Protection Program. More information can be found on the Oklahoma State University Environmental Health and Safety [website](#).

### OSHA'S SILICA STANDARDS FOR GENERAL INDUSTRY AND CONSTRUCTION:

- [OSHA Standard Overview](#)
- [Table 1 - Specified Exposure Control Methods](#)

**For questions or more information, email [ehs@okstate.edu](mailto:ehs@okstate.edu) or call (405) 744-7241.**

# OSU LABORATORY REQUIREMENTS

Environmental Health and Safety provides general laboratory safety and hazardous waste training to all students, faculty, and staff working in laboratory spaces. However, this does not cover all the training that is required for laboratory workers on campus. The OSHA Laboratory Standard (29 CFR 1910.1450) also requires laboratory specific training that is the responsibility of the principal investigator or laboratory manager. Much of what is required for laboratory specific training should be included in the laboratory chemical hygiene plan.

## LABORATORY SPECIFIC TRAINING REQUIREMENTS:

- Relevant SOPs
- Laboratory specific hazards
- Locations of safety equipment
- Locations of chemical inventory list and safety data sheets
- Emergency and evacuation procedures
- Laboratory specific waste disposal

Safety training is important to ensure employees understand safe practices and procedures while working in the laboratory. When accidents have occurred in laboratories, one of the first things investigators look for is training documentation of the specific procedures that were used. All hazardous procedures should have a standard operating procedure (SOP) written out.

## SOPs SHOULD INCLUDE:

- Methods and procedure steps
- Hazard identification
- Required personal protective equipment, engineering controls, and administrative controls
- Waste disposal
- Chemical Spill procedures
- Emergency procedures
- Author and approval signatures
- Training records that document the trainer, the date, and signatures of those trained on the SOP

Proper training reduces the risk of injuries and accidents in the laboratory. It is the responsibility of the entire OSU community to ensure training is established and completed. EHS helps ensure this safety essential is in place by regularly surveying all laboratory spaces on campus, reviewing laboratory documentation, and providing training and additional support to ensure compliance. The basic documents that every laboratory should have are the Laboratory Safety Manual, Chemical Hygiene Plan, SOPs, and training documentation. If it is not documented, there is no proof that it occurred.

## RELATED LINKS:

- [Chemical Hygiene Plan](#)
- [Laboratory Safety Manual](#)
- [SOP Template](#)
- [Training Requirements](#)

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## CURRENT EVENTS

### Bloodborne Pathogen Training

2nd Tuesday of the month, 9-9:45 a.m. and 2-2:45 p.m.  
EHS Conference Room, 003 UHS  
Required annually for members under OSHA's standard  
Registration: email name to [chemicalsafety@okstate.edu](mailto:chemicalsafety@okstate.edu)

### Respiratory Protection

1st Tuesday of the month, 8:30-9:30 a.m.  
FM North Building, Room 101C  
Required annually for members who wear respiratory protection  
Registration: email name to [ohsp@okstate.edu](mailto:ohsp@okstate.edu)

### Fire Safety w/Hands-On Extinguisher Training

2nd Friday of the month, 9-10 a.m.  
EHS Conference Room, 003 UHS  
Come join us for fire safety education featuring the BullsEye laser training device  
Registration: email name to [ohsp@okstate.edu](mailto:ohsp@okstate.edu)

### Monthly Employee Training

3rd Thursday of the month, 9:30-11:30 a.m.  
EHS Conference Room, 003 UHS  
Topics: Hazcom; Fire Safety; Slips, Trips and Falls; Office Safety and Back Safety  
Registration: email name to [ohsp@okstate.edu](mailto:ohsp@okstate.edu)