

Respirable Crystalline Silica in General Industry Workplaces



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Crystalline Silica



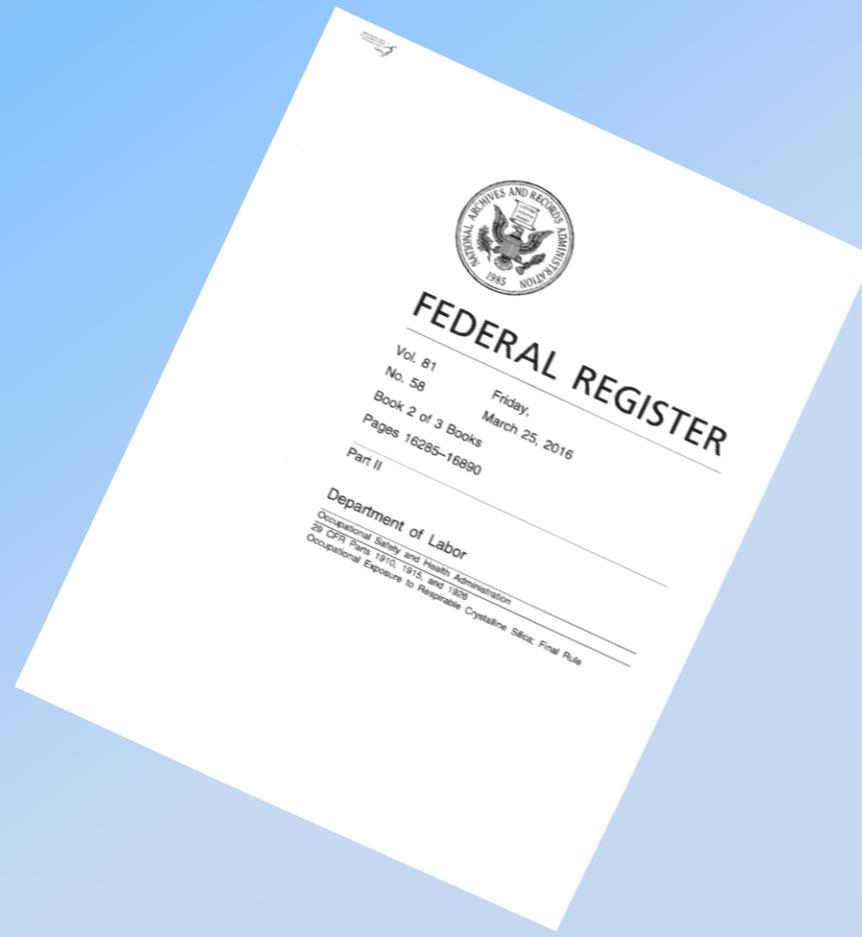
Crystalline Silica Is Found In Many Common Materials



Respirable Crystalline Silica



Respirable Crystalline Silica Standard for General Industry and Maritime



Permissible Exposure Limit (PEL)

50 Micrograms per Cubic Meter of Air
($\mu\text{g}/\text{m}^3$)

Averaged over an 8-hour work day

Exposure Assessment

Employers must:

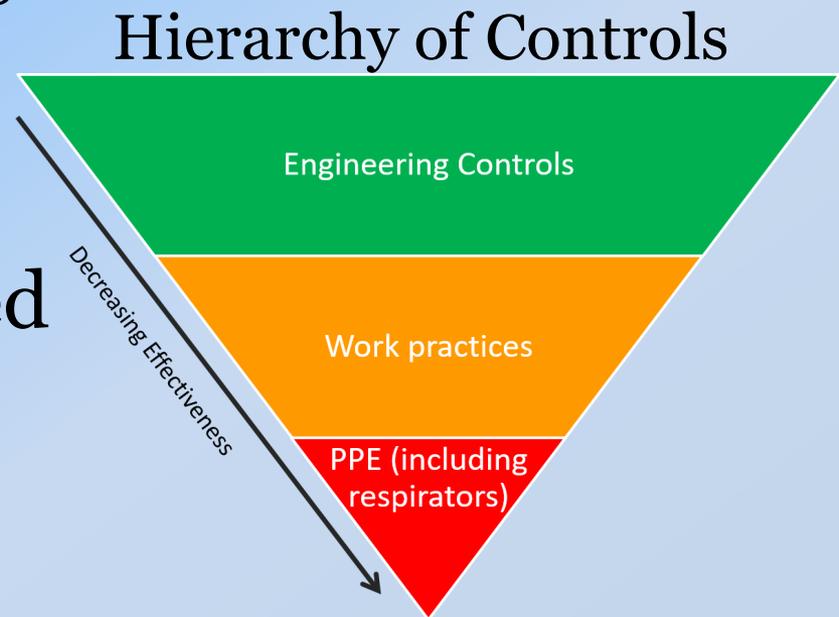
- Determine exposures
- Give employees results
- Let representatives observe



Methods of Compliance

Employers must select:

- Engineering controls
- Work practice controls
- Respirators, if needed



Engineering Controls

Cutting stone



No engineering controls



Using water to control dust

Engineering Controls

Grinding Stone



No engineering controls



Using a vacuum dust collection system

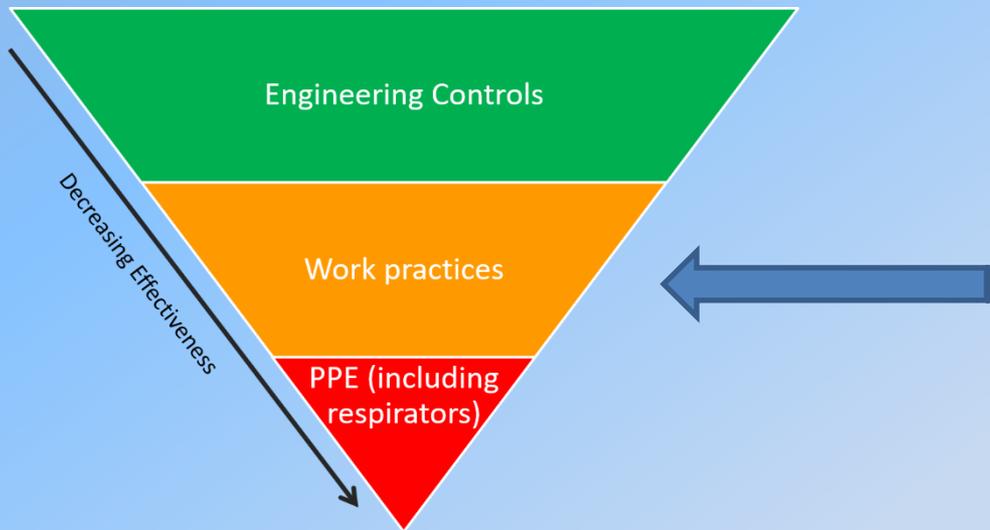
Engineering Controls

Employee protected by enclosure that isolates dust during abrasive blasting of dental castings

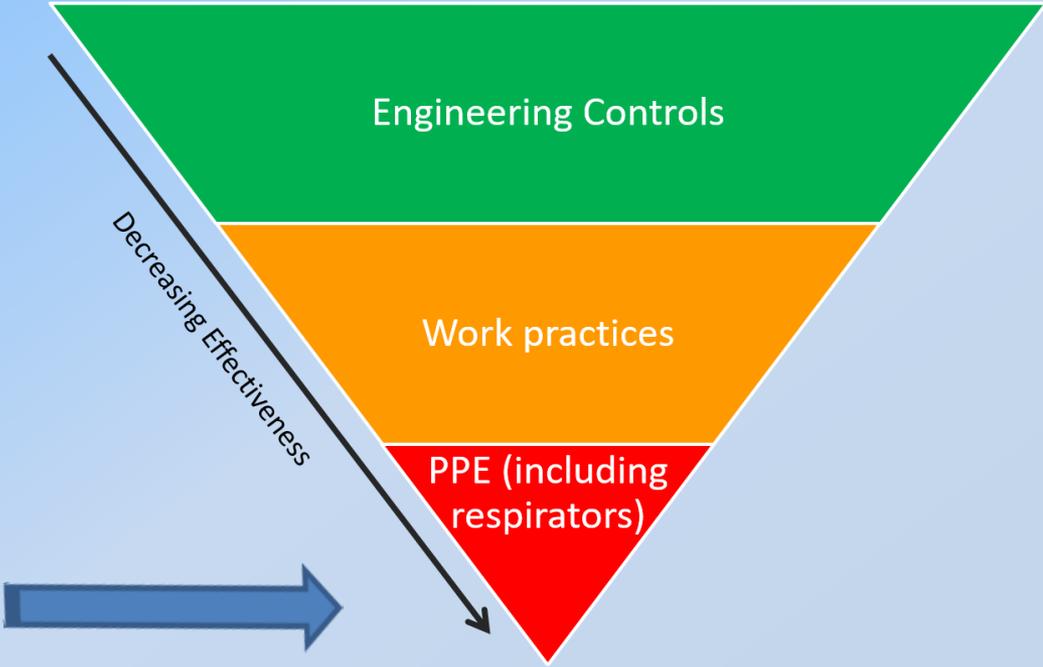


Work Practice Controls

Example: Fixing controls that are not working properly



Respirators



Specific Protections in This Workplace

Employers must train employees on workplace-specific:

- Engineering controls
- Work practice controls
- Respiratory protection

Workplace Tasks with Exposure

Employers must train employees on tasks in their workplace that may expose them to respirable crystalline silica

Respiratory Protection

Employers must:

- Provide respirators if needed
- Follow the respiratory protection standard



Regulated Areas

- Establish where exposures are expected to exceed PEL
- Mark off the area
- Post warning signs at entrances
- Limit access
- Provide and require use of respirators



Photo by Samuel Zeller on Unsplash

Regulated Area - Warning Sign



DANGER

RESPIRABLE CRYSTALLINE SILICA

MAY CAUSE CANCER

CAUSES DAMAGE TO LUNGS

WEAR RESPIRATORY PROTECTION IN THIS AREA

AUTHORIZED PERSONNEL ONLY

Housekeeping



When cleaning silica dust, avoid:

- Dry sweeping/brushing
- Compressed air without a ventilation system to capture the dust

Housekeeping

Employers must let employees know which housekeeping methods:

- *Must be* used in the workplace
- *Must not be* used in the workplace

Written Exposure Control Plan

A graphic of a clipboard with a white sheet of paper and a silver clip at the top. The paper contains text about a Written Exposure Control Plan.

Written Exposure Control Plan

Tasks with Exposure:

Engineering/Work Practice Controls:

Respiratory Protection:

Housekeeping:

Employers must:

- Prepare and implement it
- Review it yearly
- Make it available

Medical Surveillance

- For employees exposed to silica for 30 or more days/year:
 - Above the PEL (until June 23, 2020)
 - At or above the action level (starting June 23, 2020)
- Offered:
 - Within 30 days of assignment
 - Every three years



Medical Exams



- Medical and work history
- Physical exam
- X-rays



Medical Exams

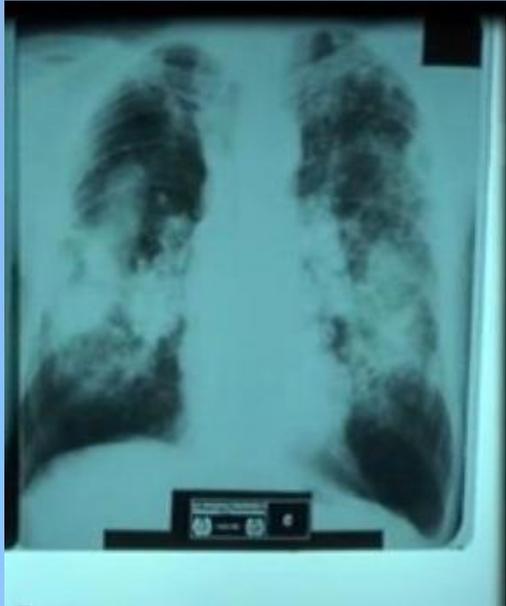


Lung function test

Tuberculosis (TB test)



Why Medical Exams are Important



Find disease or
increased sensitivity
to silica exposure

Determine fitness to
use respirator



Medical Report for the Employee



- Medical conditions
- Recommended limitations on respirator use and exposure to silica
- Recommendation for specialist exam
- **Only goes to the employee**

Medical Opinion for the Employer

- Only medical info included:
 - Recommended respirator limitations



- Additional information requiring employee consent:
 - Recommended exposure limitations
 - Recommendation for specialist exam

Other Training

- Hazard communication program
- Respiratory protection program



United Steelworkers – Tony Mazzocchi Center

Recordkeeping



Employers must:

- Keep medical and exposure records
- Make them available

More Information



www.osha.gov/silica/