



Solutions for California and Beyond... Stone Industry Perspectives

**May 16, 2024
UCLA**

Discussion Topics

1. Training Resources
2. Alternative Materials / Silica Content
3. More Research & Science
4. We need to work together

Natural Stone University

Online learning portal

Classes can be downloaded and administered by a company safety manager and attendance tracked in the system.

University Assistance



Navigation Tutorial



FAQS



Your Transcript



Your Library



Your Team
(Edu Admins Only)

Browse Individual Courses by Category



Safety



Design & Application



Technical & Standards



Business



NSI Programs



Industry Syllabi

Over 80 hours of safety training

Featured Courses & Bundles



Pre-Membership Trial Courses



CEU Courses for Architects & Designers



Achieving Green Building Goals with Natural Stone



Silica & Slab Safety Certificate



Industry Syllabi for Education, Employment & Restoration



Internship

Silica & Slab Handling training certificate

NSI Program Overviews



Accreditation for Fabricators & Installers



Women in Stone



Natural Stone Sustainability Standard



Certified CEU Speaker Program



Maximizing Your Membership



Keep Your Employees Safe

Online training for natural stone including preventing silicosis, safe slab handling and creating a safety program.

Safety Training



To earn this 4-hour training certificate, one designated safety manager must complete and pass all designated safety courses, download safety materials, etc.

With these resources, safety managers may administer these same training courses to their employees.

The Silica & Safety Certificate includes the following courses:

- General Awareness
- Silica
- Slab Handling
- Associated Materials

Safety Training

General Awareness

- Creating a Stone Industry Safety Program
- Safety Excellence with OSHA's SHARP Program
- Requirements for Personal Protective Equipment
- No Place for Complacency- Keep Safety Active
- OSHA Voluntary On-Site Consultation

Silica

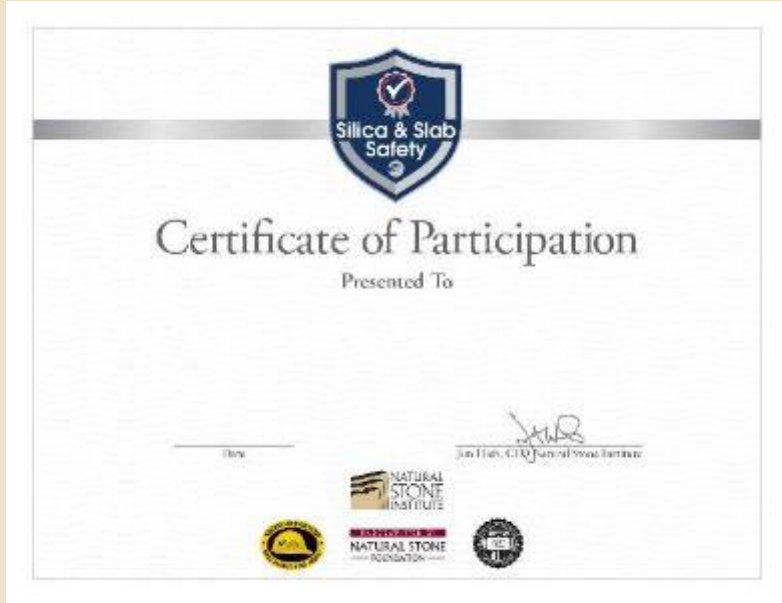
- Silicosis: An Industry Guide to Awareness and Prevention
- Silica Exposure & Employee Safety
- Implementing a Silica Exposure Control Plan

Safe Slab Handling

- Safe Slab Handling Overview
- Slab Fall Shadow
- Employee and Customer Training
- Material Handling Containers
- Material Handling and Flatbed Trucks
- Handling Slabs with Overhead Cranes
- Handling Slabs with Forklifts
- Handling Slabs with Slings and Clamps

Associated Materials (Recommended for Download)

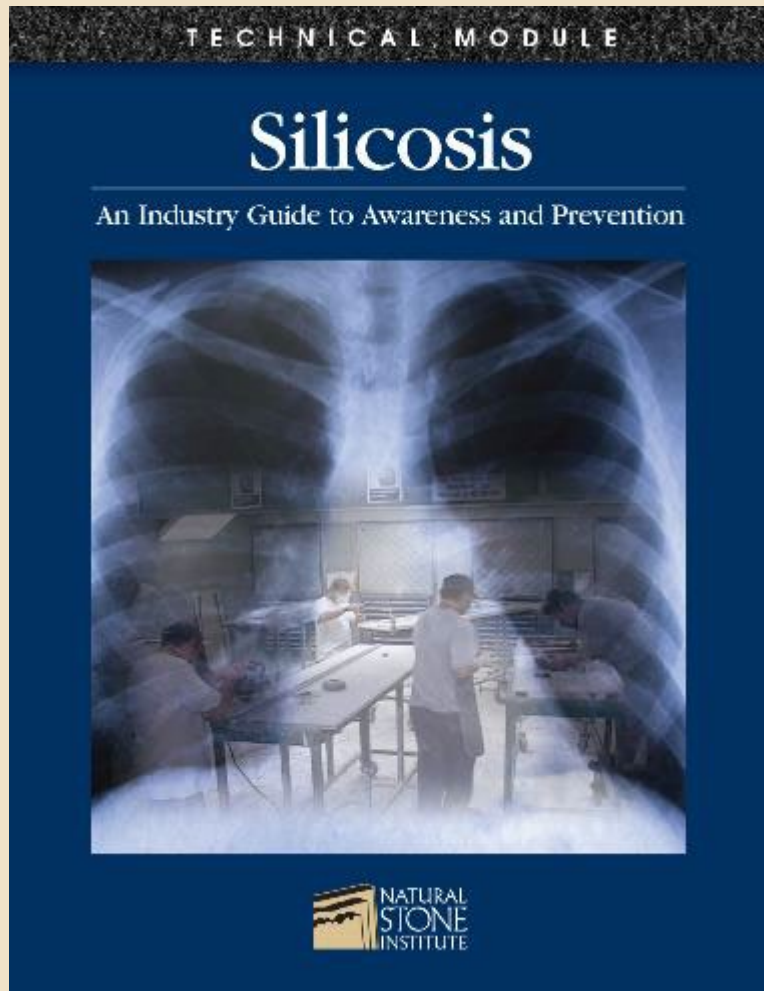
- [OSHA Inspection Planning Checklist](#)
- [Sample Silica Exposure Control Plan for General Industry](#)
- [Safety in the Stone Industry booklet](#)
- [Silicosis An Industry Guide to Awareness & Prevention](#)



Certificate expires after 2-years.

Silica & Slab Training Certificate

Safety Training



10-page technical module covering:

- I. History of Silicosis
- II. Cases of Silicosis in the United States
- III. How Silicosis Develops
- IV. Types of Silicosis
- V. Silicosis: Incurable but Preventable
- VI. How to Prevent Silicosis
- VII. Housekeeping and Work Practices
- VIII. Engineering Controls
- IX. OSHA Standards for Exposure Limits
- X. Air Quality Monitoring
- XI. Respirable Sampling
- XII. Safety Precautions for Workers
- XIII. Baseline Medical Testing

Silicosis – An Industry Guide to Awareness and Prevention

Online Resources

Silica Resources

Silicosis: Incurable but Preventable

There is no cure for silicosis. When an aggressive form of silicosis is present in the lungs, scarring progresses rapidly. There is no effective medication to halt the scarring. The only treatment for silicosis is prevention: avoiding exposure to respirable silica dust.

Employers can prevent silicosis and keep employees safe by providing the following:

- Training
- Air monitoring and adherence to air quality requirements
- Engineering controls and housekeeping practices
- Personal protective equipment (PPE)
- Medical surveillance in compliance with OSHA regulations

Protecting employees from respirable crystalline silica and silicosis should be one of the most important objectives of every company in the hard-surface industry.

NOTE: we encourage stone companies to remind customers that silicosis is an occupational hazard and is not a danger to homeowners or other end-users.

OSHA Silica Rule

OSHA Releases Final Silica Ruling

Visit the official OSHA Silica Safety web page



Natural Stone Institute Training Resources:

Silica & Slab Safety Certificate

Includes training and materials for silicosis, silica safety, slab handling, and implementing a silica exposure control plan. **Updated in 2023.** This training certificate must be renewed every two years.



Silicosis: An Industry Guide for Awareness and Prevention

Revised in 2020 to reflect current OSHA regulations.

Silica Exposure Control Plan for General Industry

Document to help satisfy one of the steps for compliance.

OSHA Inspection Planning Checklist

A general overview of policies and items needed to be prepared in advance of an OSHA inspection.

For additional safety training resources, courses, videos, and links – [click here](#).

Silica Webpage: www.naturalstoneinstitute.org/silica

Product Options / Alternatives

Stone	Average % Silica
Engineered stone	≥93
Quartzite	95
Quartzitic sandstone	90
Sandstone	60
Granite	10 - 45
Slate	Varies
Soapstone	Varies

Sources: Silica Hazards from Engineered Stone Countertops, NIOSH Science Blog, March 2014; ASTM C616, *Standard Specification for Quartz-Based Dimension Stone*; American Geological Institute, *Dictionary of Geological Terms*

- Most popular products
- Shift to lower silica products
- Some manufacturers now producing low- or no-silica based products

Assemble more science

Can stone products be fabricated safely?

Are additional ETS requirements necessary if a shop is 2016 OSHA standard compliant?

Science/Research: Literature Review

- 300+ scientific papers published
- Which are relevant to the stone industry
 - Identify key findings
 - Strengths & weaknesses
 - Do results support the conclusion
- Organized into 2-3 categories
 - Employee exposure
 - Medical Surveillance
 - Other

OSHA • NIOSH HAZARD ALERT
Worker Exposure to Silica during Countertop Manufacturing, Finishing and Installation
The Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH) have identified exposure to silica as a health hazard to workers involved in manufacturing, finishing and installing natural and manufactured stone countertop products, both in fabrication shops and during in-home finishing/installation. This hazard can be mitigated with simple and effective dust controls in most countertop operations.

Introduction
Workers involved in manufacturing, finishing, and installing natural and manufactured stone countertops are at risk for significant crystalline silica exposure. Crystalline silica commonly occurs in nature as the mineral quartz and is found in granite, sandstone, quartzite, various other rocks, and sand. Workers who inhale very small crystalline silica particles are at risk for silicosis — an incurable, progressively disabling and sometimes fatal lung disease.

Silicosis results in permanent lung damage. Silica dust particles become trapped in lung tissue, causing inflammation and scarring and reducing the ability to take in oxygen. Symptoms of silicosis may or may not be obvious, including cough and fatigue. Workers exposed to airborne crystalline silica are at increased risk for lung cancer, chronic obstructive pulmonary disease (COPD), and kidney disease.

OSHA and NIOSH investigated U.S. work sites to respirable crystalline silica in the stone countertop workers developing silicosis. Some cases from Spain and Israel, work sites and without respiratory protection, were identified in the United States.

Severe Silicosis in Engineered Stone Fabrication Workers - California, Colorado, Texas, and Washington, 2017-2019
Cecile Rose, Amy Heisterling, Keti Patel, Coralynn Sack, Jenna Wolff, Lauren Zell-Baran, David Weissman, Emily Hall, Robbie Soraash, Ronda B McCarthy, Heidi Bojes, Brian Korotzer, Jennifer Flattery, Nicholas R. Liles, Barbara L. Materna, Ganesh Raghu, Robert Harrison, R. Liles, Joshua Rotzko, Kirk D Jones, Carolyn K Reed-Whitaker, PMCG762184 DOI: 10.15585/mmwr.mm6803a1

Notes from the Field: Surveillance of Silicosis Using Electronic Case Reporting — California, December 2022–July 2023
Weekly / November 17, 2023 / 72(46):1275–1276
Print
Jennifer Flattery, MPH¹; Chelsea Woolsey²; Melanie Epstein-Corbin, MP Cummings, MD³ (VIEW AUTHORS AFFILIATIONS)
View suggested citation
Electronic case reporting (eCRR) is a promising rapid reporting system that automatically generates and transmits a disease report to agencies in real time using previously established criteria. All 50 states are connected to the eCRR infrastructure. The Reportable Condition (RCMS) is a component of the eCRR infrastructure, is a real-time reporting system according to jurisdictional reporting requirements within the Terrestrial Epidemiologist's position statements (1). Health care providers send an initial case report to the eCRR infrastructure when laboratory results, are met within their EHRs. Therefore, for organizations, if a health care encounter involves COVID-19 and sent to the eCRR infrastructure for processing, when triggered by an EHR, and a reportable condition rule is health agency, the initial case report is routed by the health agency to the eCRR infrastructure for processing. Other conditions can be added to public health agency.

Prevention of the Occupational Silicosis Epidemic in Australia: What Do Those Who Assess Workplace Health Risk Think Should Be Done Now?
Kate Cole, Deborah Glass, Tracey Bence, Dino Pianello, Peter Knott, Shelley Rowett, Sharron Johnson
Annals of Work Exposures and Health, Volume 67, Issue 2, March 2023, Pages 281–287, Published: 16 September 2022
https://doi.org/10.1093/annweh/wxac064
PDF Split View Cite Article history Permissions Share

Abstract
An Australian National Dust Disease Taskforce was established to address the re-emergence of occupational lung disease, in particular silicosis. Exposure to respirable crystalline silica (RCS) occurs in various industries in Australia. We asked occupational hygienists about their practical experiences and perspectives on RCS exposure and regulatory action. A total of 105 members of the Australian Institute of Occupational Hygienists completed an anonymous questionnaire, which addressed individual characteristics, experiences, and perceived level of employer awareness, effectiveness of current regulation, and recommendations for improvement, across three main industrial sectors. Based on professional experience, 71% were concerned about the potential for RCS over-exposure. Barriers to adequate exposure control included lack of management commitment and financial resources. The involvement of

Science/Research: Fabricator Survey



- Compiling information on what fabrication facilities are doing for silica safety
- Collect existing air sampling data
- Characterize the nature and extent of workplace exposure to crystalline silica.
- Data collected ended this week.

Science/Research: Fabricator Guidance

- Guidance document for fabricators about exposure monitoring
- Consultation programs available from each state
- Selecting private companies
- Questions to ask
- Etc



Science/Research: Additional Studies

- Exposure assessments at select fabrication sites
- Collect data which is missing
- Etc



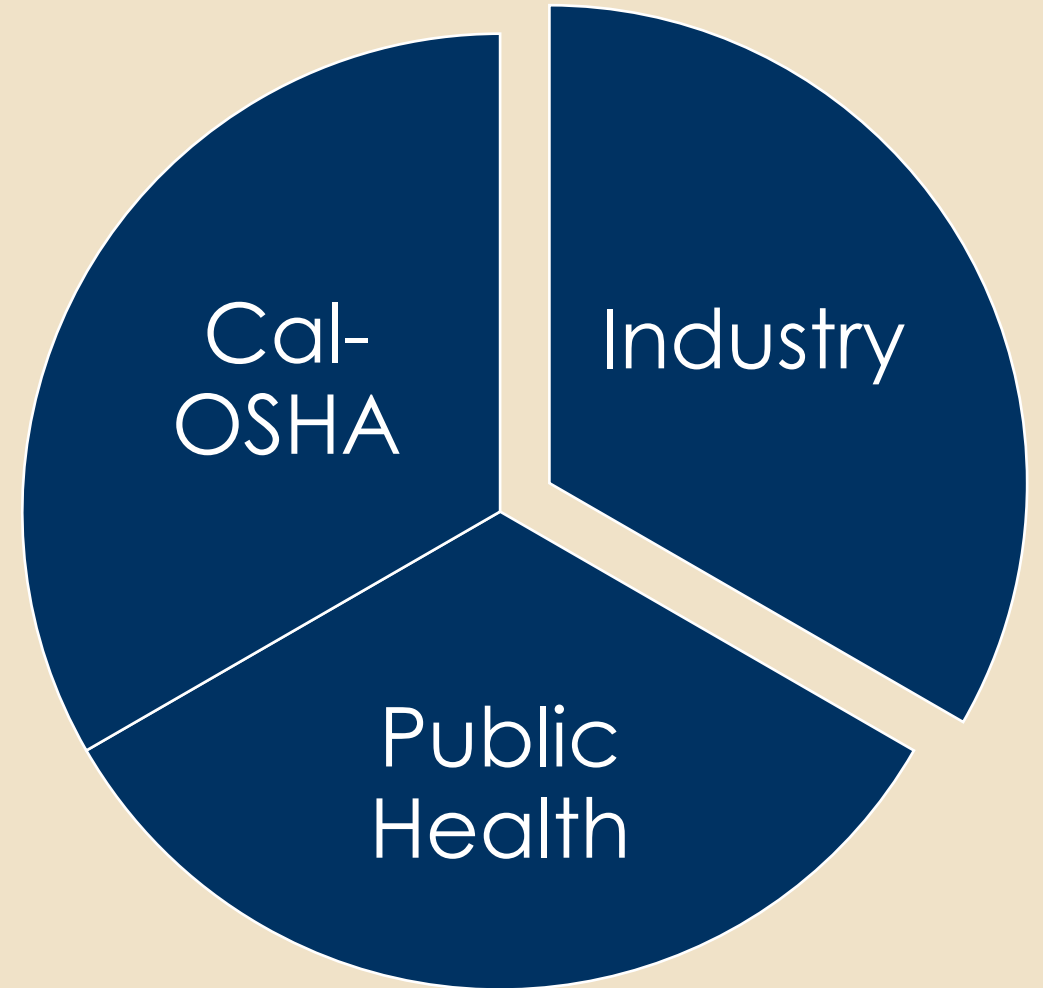
Compliant vs. Non-Compliant Facilities



Collaboration Assemble Science

Science & Data drive
future discussion.

Opportunity to work
together!



Q&A
Discussion

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www.naturalstoneinstitute.org/silica
www.ifsanow.org

Thank you!