



**Division of Occupational Safety and Health
POLICY AND PROCEDURES MANUAL**

**SPECIAL EMPHASIS PROGRAM
Occupational Exposure to Respirable Crystalline Silica
Cut Stone and Stone Product Manufacturing**

TABLE OF CONTENTS

A. UNPROGRAMMED AND PROGRAMMED-PLANNED INSPECTION 1

B. FOLLOW-UP INSPECTION 3

C. MEDICAL RECORDS REQUEST 3

D. AIR SAMPLING PROCEDURES 4

E. REFERRAL PROCEDURES FOR AIR SAMPLING 4

F. CSHO PROTECTION 4

G. RECORDING IN OIS 5

H. OUTREACH 5

I. PROGRAM REVIEW 5





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SEP

SPECIAL EMPHASIS PROGRAM –
Occupational Exposure to Respirable Crystalline Silica
Cut Stone and Stone Product Manufacturing

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AUTHORITY: California Labor Code Sections 6307, 6308, 6309, 6313, 6314, 6314.1, 6320, 6321, 6354, and Title 8, California Code of Regulations (CCR) Sections 3204, 5204, 5141, 5143, 5144, 5151, 5155, and 5194.

POLICY: It is the policy of the Division of Occupational Safety and Health to identify, and reduce or eliminate as much as practicable, workers' exposures to respirable crystalline silica when engaged in manufacturing, cutting, polishing, shaping, and finishing engineered stone for countertops, building and miscellaneous uses.

BACKGROUND: 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.**

The highest silica levels are associated with engineered stone, where pigments and adhesives comprise the remaining materials.

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

While the stone industry in the United States has worked to implement dust controls to protect workers against the dangers of silica exposure, studies and OSHA inspections indicate that exposure levels may not be adequately controlled in some stone countertop fabrication worksites in the U.S.

APPLICATION: These procedures apply to all operations engaged in manufacturing, cutting, polishing, shaping, and finishing engineered stone for countertops, building and miscellaneous uses.

A. UNPROGRAMMED AND PROGRAMMED-PLANNED INSPECTION PROCEDURES

1. Regional Managers must designate a Regional Silica Coordinator.
2. The Regional Managers must ensure all cases conducted under this SEP are submitted timely to the Silica Program Coordinator for review, prior to the issuance of 1BYs and citations.
3. Regional Silica Coordinators must review and ensure all silica cases are consistent, accurate, and compliant with this SEP, DOSH Compliance Policy and Procedure Manual and other directives, prior to case submittal to the Silica Program Coordinator.

4. Silica Program Coordinator shall track and monitor silica inspections as part of this SEP; hold bi-weekly calls to discuss progress and share updates with staff; and provide reports to senior management when requested.
 5. District Managers must evaluate and assign for an onsite inspection every reported accident, injury, and/or illness, complaint and referral of operations engaged in manufacturing, cutting, shaping, and finishing engineered stone where workers are exposed or potentially exposed to respirable crystalline silica. The District Manager must assign the reported accident, injury, and/or illness, complaint and/or referral to a CSHO with industrial hygiene expertise and that has knowledge of :
 - a. Potential hazards which may be encountered at the site, including the potential hazards of silica.
 - b. Contents of the Silica regulations (1532.3 and 5204).
 - c. Appropriate PPE to be worn. (Note: Each CSHO who will be expected to use PPE must be trained in the proper care, use, and limitations of the PPE.)
 - d. Respirable crystalline silica exposure sampling methods and controls (engineering, administrative and work practice controls).
 - e. [P&P C-51 Crystalline Silica Inspection Guidelines](#)
 6. District Managers must evaluate, determine and assign for a follow-up inspection, establishments inspected under this SEP in accordance with DOSH [P&P C-15](#).
 7. CSHOs must conduct all inspections in accordance with DOSH [P&P C-1A](#), other DOSH directives and this SEP.
 8. CSHOs must explain to the employer during the opening conference and employees during interviews, the objective of this SEP, which is to minimize and/or eliminate worker exposure to respirable crystalline silica hazards present in the Cut Stone and Stone Product Manufacturing industries.
 9. CSHOs must review the employer's injury and illness records to determine if injuries and illnesses related to respirable crystalline silica exposures have been recorded. The CSHO must attempt to interview enough employees exposed or potentially exposed to respirable crystalline silica to determine if there are unrecorded injury and illness cases.
 10. CSHOs must interview employees who specifically cut, grind, laminate, and/or polish engineered/artificial stone and complete a "*Cal/OSHA Emphasis Program on Stone Fabrication Health Questionnaire*" for each employee interviewed.
 11. CSHOs must, within 10 working days from the opening conference date, conduct personal air sampling, and collect bulk samples, as appropriate, to document employee exposures for all inspections conducted under this SEP. If the process that involves the use of engineered stone is not in operation the day of the sampling, the CSHO must return later to perform sampling. Monitoring may not be necessary, however, if at the time of the inspection, the employer provides reliable and recent data showing employees' exposures are below the action level and the conditions in the work place are the same as when the employer completed sampling.
 12. CSHOs must send a copy of employee monitoring results to each employee for whom monitoring was collected.
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13. CSHOS must perform air monitoring for the purpose of abatement verification, unless the employer provides reliable monitoring data that shows that engineering controls have reduced employee exposures to below the action level. See also [P&P C-2](#).
14. In any inspection where the decision is made to utilize the employer's monitoring data to characterize employee exposures, documentation related to this decision must be included in the case file, including copies of the employer's monitoring data. Where it is not possible to obtain copies of the employer's sampling results, the CSHO must conduct the necessary air monitoring.
15. CSHOs must request and evaluate information/records on the following aspects of the employer's occupational safety and health system/program as it relates to respirable crystalline silica exposure in the workplace:
 - a. **Exposure Assessment/Monitoring Program**
 - b. **Medical Surveillance Program**
 - c. **Recordkeeping Program**
 - d. **Housekeeping Program**
 - e. **Methods of Compliance:**
 - i. **Engineering Controls**
 - ii. **Administrative Controls**
 - iii. **Work Practices**
 - f. **Regulated Areas**
 - g. **Personal Protective Equipment**
 - h. **Respiratory Protection Program**
 - i. **Hazard Communication Program**
 - j. **Employee Training Program**
16. CSHOs must address all potential hazards observed in the course of any inspection conducted under this SEP. Other health hazards may include exposure to elevated noise levels from cutting/drilling/blasting operations; not using respiratory protection when needed or inadequate respiratory protection equipment or program; heat stress; exposure to other hazardous chemicals, etc.

B. FOLLOW-UP INSPECTION

CSHOs must conduct follow-up inspections in accordance with the DOSH Compliance Policy and Procedures, this SEP and other DOSH directives.

C. MEDICAL RECORDS REQUEST

Based on information obtained from illness and injury records and interviews, CSHOs may need to review additional employee medical information. CSHOs must obtain written consent from the employee to review their medical records. CSHOs must have the employee complete and sign the "Authorization to Receive Medical Information" form.

If any employee informs the CSHO that they have been treated for silica exposure, the CSHO must complete and submit the Medical Unit Referral Cal/OSHA Form 90 to the Medical Unit. (See "*Cal/OSHA Emphasis Program on Stone Fabrication Health Questionnaire*")

D. AIR SAMPLING PROCEDURES

Only use OSHA Method ID -142 version 4 for respirable crystalline silica air sampling. It is important to collect a large enough air sample especially for respirable dust to enable determination of a result that is relevant to the PEL.

Check with our contract analytical lab for current recommendations. When using cyclones for respirable samples, check with Calico staff for current recommendations on types of cyclones, calibration and leak testing methods.

E. REFERRAL PROCEDURES FOR AIR SAMPLING

CSHOs whose primary expertise is not industrial hygiene shall discuss with their District Manager workplaces where they have identified potential for hazardous exposure to crystalline silica, based for example on first-hand observation of dusty operations involving mineral materials, or based upon information obtained from the employer, employees, or other credible sources of information. In such situations, the District Manager must make appropriate assignments of staff with industrial hygiene expertise for further assessment.

F. CSHO PROTECTION

The protection of CSHOs during any inspection is an issue of importance. In order to ensure adequate protections, CSHOs must conduct a hazard determination to establish the presence of silica (or other hazardous substances) prior to initiating the onsite inspection and walkaround. This hazard determination will rely on information such as, but not limited to, previous inspection history, safety data sheets (SDS), professional judgement, and/or previous exposure monitoring surveys.

CSHOs are reminded to use appropriate PPE when they are exposed to a hazard. CSHOs must not enter a respirable crystalline silica-regulated area, or other area where exposures are likely to exceed the PEL, unless it is necessary.

1. District Managers must ensure that CSHOs conduct a hazard determination to establish the presence and potential presence of silica, prior to initiating the onsite inspection and walkaround.
 2. District Managers must ensure that PPE to be worn by CSHOs during inspections, such as respirators, gloves, and/or protective clothing are available prior to the inspection.
 3. District Managers must instruct and ensure that CSHOs understand how their own PPE is to be handled after conducting a silica inspection, including provisions for laundering and equipment decontamination.
 4. District Managers must instruct and ensure that CSHOs are current in their Respirator fit testing, medical examination and training.
 5. CSHOs must discuss the need for training, PPE and any other concerns with their District Manager and/or Regional Senior Safety Engineer/Industrial Hygienist.
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G. RECORDING IN OIS

All enforcement inspections (complaints, accidents, referrals and programmed-planned) conducted under this SEP must be coded with the NEP code, “*COUNTERTOP*”, entered into OIS, in addition to any other applicable coding (*See tables below*).

PROGRAM	DATA ENTRY FORMAT	DESCRIPTION
ENGINEERED STONE INSPECTIONS	COUNTERTOP	SILICA EXPOSURES IN ENGINEERED STONE PROCESSING

TYPE	ID	VALUE	DESCRIPTION – (NOT DATA ENTERED)
S	15	COUNTERTOP	SILICA EXPOSURES IN ENGINEERED STONE PROCESSING
S	08	ARCHIVE	FILE RETENTION
S	06	CRYS SILCA	INSPECTIONS WHERE CRYSTALLINE SILICA SAMPLES ARE TAKEN

H. OUTREACH

CSHOs must provide the employer with information resources regarding their responsibilities and obligations required by the appropriate silica regulation related to their operation, the health effects of silica, effective control measures, and information on employee rights.

I. PROGRAM REVIEW

Regional Managers are responsible for reporting quarterly to the Chief and Deputy Chief following data:

1. The number of programmed-planned inspections conducted;
2. The number of complaints, illnesses (accidents), referrals, and follow-up inspections conducted;
3. The number of employees potentially exposed to respirable crystalline silica;
4. The number of employees exposed to respirable crystalline silica at the AL and/or PEL;
5. Engineering Controls at the workplace;
6. Medical Surveillance Program at the workplace;
7. Report of possible violations related to respirable crystalline silica exposure; and
8. Estimated completion date for each case.

NOTE: Reporting to the Chief and Deputy Chief may be performed by Regional Silica Coordinators on behalf of the Regional Manager.

Regional Managers will conduct an overview of the SEP on a periodic (six months) basis to assess the effectiveness of the program and provide a report to the Chief and Deputy Chief including, but not limited to the following data:

1. The number of employers inspected
2. The number of employees covered
3. The number of employees removed from hazards
4. Reductions in employee exposures
5. Abatement measures implemented
6. Number of violations related to specific targeted hazards