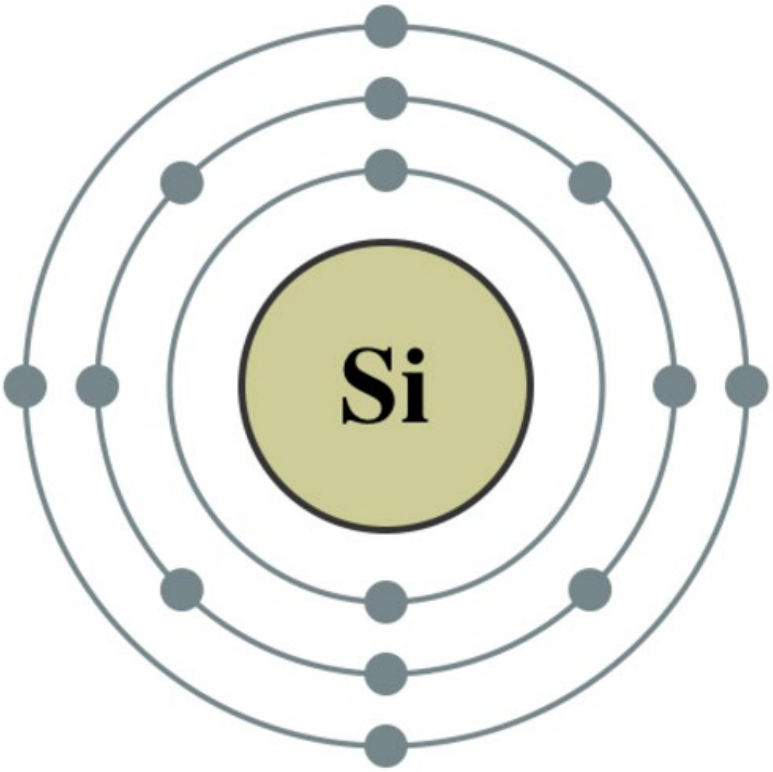

Silica Exposure Control Program

OFFICE OF ENVIRONMENTAL HEALTH & SAFETY
LOS ANGELES UNIFIED SCHOOL DISTRICT

OFFICE OF ENVIRONMENTAL HEALTH & SAFETY

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I. INTRODUCTION

PURPOSE

This Silica Exposure Control Program (SECP) was developed to prevent employee exposure to hazardous levels of Respirable Crystalline Silica that could result from construction activities or routine maintenance and repair. Respirable Crystalline Silica exposure at hazardous levels can lead to lung cancer, silicosis, chronic obstructive pulmonary disease, and kidney disease.

This document is intended to meet the requirements of the Respirable Crystalline Silica Construction Standard (Title 8 CCR 1532.3) established by the California Division of Occupational Safety and Health Administration (CAL-OSHA). CAL-OSHA's permissible exposure limit for respirable crystalline silica of is 0.05 milligrams per cubic meter (0.05 mg/m^3), found in Title 8 section 5155, Table AC-1. Employers must continue to meet the requirements of Title 8 Section 1530.1 to control employee exposures to dust created by operations conducted on concrete or masonry materials.

All work involving chipping, cutting, drilling, grinding, or similar activities on materials containing crystalline silica can lead to the release of respirable-sized particles of crystalline silica (i.e. respirable crystalline silica). Crystalline Silica is a basic component of soil, sand, granite and many other minerals. Quartz is the most common form of crystalline silica. Many materials found on construction sites include crystalline silica; including but not limited to – cement, concrete, asphalt, pre-formed structures (inlets, pipe, etc.) and others. Consequently, this program has been developed to address and control these potential exposures to prevent our employees from experiencing the effects of occupational illnesses related to Respirable Crystalline Silica exposure.

SCOPE

This Silica Exposure Control Program applies to all employees who have the potential to be exposed to Respirable Crystalline Silica when covered by the CAL-OSHA Standard. The CAL-OSHA Occupational Exposures to Respirable Crystalline Silica Standard applies to all occupational exposures to Respirable Crystalline Silica in construction work, except where employee exposure will remain below 25 micrograms of Respirable Crystalline Silica per cubic meter of air (25 $\mu g/m^3$) as an 8-hour time-weighted average (TWA) under any foreseeable conditions.

DEFINITIONS

- Action Level means a concentration of airborne respirable crystalline silica of 25 µg/m^3, calculated as an 8-hour TWA.

- Competent Person means an individual who is capable of identifying existing and foreseeable respirable crystalline silica hazards in the workplace and who has authorization to take prompt corrective measures to eliminate or minimize them.

- Employee Exposure means the exposure to airborne Respirable Crystalline Silica that would occur if the employee were not using a respirator.

- High-Efficiency Particulate Air (HEPA) Filter means a filter that is at least 99.97 percent efficient in removing monodispersed particles of 0.3 micrometers in diameter.

- Objective Data means information, such as air monitoring data from industry-wide surveys or calculations based on the composition of a substance, demonstrating employee exposure to respirable crystalline silica associated with a particular product or material or a specific process, task, or activity. The data must reflect workplace conditions closely resembling or with a higher exposure potential than the processes, types of material, control methods, work practices, and environmental conditions in the employer's current operations.

- OEHS is the Office of Environmental Health and Safety, within the Los Angeles Unified School District (LAUSD), responsible for ensuring the Silica Exposure Control Program is implemented.

- Permissible Exposure Limit (PEL) is the maximum permitted 8-hour time-weighted average concentration of an airborne contaminate. The employer shall ensure that no employee is exposed to an airborne concentration of respirable crystalline silica in excess of 50 µg/m^3, calculated as an 8-hour TWA.

- Physician or Other Licensed Health Care Professional (PLHCP) means an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide or be delegated the responsibility to provide some or all of the particular health care services required by the medical Surveillance Section of the CAL-OSHA Respirable Crystalline Silica Standard.

- Respirable Crystalline Silica means quartz, cristobalite, and/or tridymite contained in airborne particles that are determined to be respirable.

- Specialist means an American Board-Certified Specialist in Pulmonary Disease or an American Board-Certified Specialist in Occupational Medicine.

RESPONSIBILITIES

Los Angeles Unified School District (LAUSD) firmly believes protecting the health and safety of our employees is everyone's responsibility. This responsibility begins with upper management providing the necessary support to properly implement health and safety programs. However, all levels of the organization assume some level of responsibility for this program including the following.

Office of Environmental Health and Safety (OEHS):

- Conduct job site assessments for Silica-containing materials and perform employee respirable crystalline silica hazard assessments in order to determine if an employee's exposure will be above 25 µg/m^3 as an 8-hour TWA under any foreseeable conditions.

- Ensure that Project Managers, Owner Authorized Representatives, Construction Managers (CMs), Supervisors, Foreman, Competent Persons, and employees are educated in the hazards of Silica exposure and trained to work safely with Silica in accordance with CAL-OSHA's Occupational Exposures to Respirable Crystalline Silica Standard and CAL-OSHA's Hazard Communication Standard. Managers and Competent Persons may receive more advanced training than other employees.

- Implement and oversee the District's Medical Surveillance and Respirator Protection Programs, supervise training (for example, proper use of respirators), conduct fit-testing, and inspections (for equipment, PPE, and safe work methods/practices).

- Conduct an annual review (or more often if conditions change) of the effectiveness of this program and any active project ECP's that extend beyond a year.

Project Manager, OAR, and Construction Manager, Facilities Environmental Technical Unit (FETU)

- Ensure all applicable elements of this Silica Exposure Control Program (SECP) are implemented on the project including the selection of a Competent Person.

- Coordinate with general contractors and subcontractors to ensure a safe work environment relative to silica exposure.

- Assist in the selection and implementation of the appropriate control measures in accordance with the Construction Tasks identified in CAL-OSHA's Construction Standard

Table 1; and potentially including (but not limited to) a written Exposure Control Plan (ECP), exposure monitoring, Hazard Communication training, housekeeping and others.

- Ensure that employees using respirators have been properly trained, medically cleared, and fit-tested in accordance with the LAUSD's Respiratory Protection Program.

- Ensure that work is conducted in a manner that minimizes and adequately controls the risk to workers and others. This includes ensuring that workers use appropriate engineering controls, work practices, and wear the necessary personal protective equipment (PPE).

- Where there is risk of exposure to silica dust, verify employees are properly trained on the applicable contents of this program, the project-specific ECP, and the applicable CAL-OSHA Standards (such as Hazard Communication). Ensure employees are provided appropriate PPE when conducting such work.

Competent Person and/or Superintendent, Supervisor:

- Make frequent and regular inspections of job sites, materials, and equipment to implement of the ECP.

- Identify existing and foreseeable respirable crystalline silica hazards in the workplace and take prompt corrective measures to eliminate or minimize them.

- Notify the OAR, Project Manager, CM, and/or OEHS of any deficiencies identified during inspections in order to coordinate and facilitate prompt corrective action.

- Review and consider that the best techniques and the latest technologies are selected and used to control silica dust.

- Ensure that the materials, tools, equipment, personal protective equipment (PPE), and other resources (such as worker training) required to fully implement and maintain this Silica Exposure Control Program are in place and readily available if needed.

- Contractors will be responsible for conducting job site assessments for Silica-containing materials and perform employee Respirable Crystalline Silica hazard assessments in order to determine if an ECP, exposure monitoring, and medical surveillance is necessary.

Employees:

- Follow recognized work procedures (such as the Construction Tasks identified in Cal- OSHA's Construction Standard Table 1) as established in the project's ECP and this program.

- Use the assigned PPE in an effective and safe manner.
- Participate in respirable crystalline silica exposure monitoring and the medical surveillance program.
- Report any unsafe conditions or acts to the Supervisor, Competent Person, or OEHS.
- Report any exposure incidents or any signs or symptoms of silica illness to supervisor.

II REQUIREMENTS

Specified Exposure Control Methods

When possible and applicable, LAUSD will conduct activities with potential silica exposure to be consistent with CAL-OSHA's Construction Standard Table 1. Supervisors will ensure each employee under their supervision and engaged in a task identified on CAL-OSHA's Construction Standard Table 1 have fully and properly implemented the engineering controls, work practices, and respiratory protection specified for the task on Table 1 (unless OEHS or a qualified environmental consultant has assessed and limited the exposure of the employee to Respirable Crystalline Silica in accordance with the Alternative Exposure Control Methods).

Table–1 - Specified Exposure Control Methods When Working with Materials Containing Crystalline Silica

Equipment/ Task		Engineering and work practice control methods	Required respiratory. protection and minimum assigned protection factor (APF)	
			≤ 4 hrs/ shift	> 4 hrs/ shift
1	Stationary masonry saws	• Use saw equipped with integrated water delivery system that continuously feeds water to the blade. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
2a	Handheld power saws (any blade diameter) when used outdoors	• Use saw equipped with integrated water delivery system that continuously feeds water to the blade. • Operate and maintain tool in accordance with	None	APF 10

Equipment/ Task		Engineering and work practice control methods	Required respiratory. protection and minimum assigned protection factor (APF)	
			≤ 4 hrs/ shift	> 4 hrs/ shift
		manufacturer's instructions to minimize dust emissions.		
2b	Handheld power saws (any blade diameter) when used indoors or in an enclosed area	• Use saw equipped with integrated water delivery system that continuously feeds water to the blade. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	APF 10	APF 10
3	Handheld power saws for cutting fiber-cement board (with blade diameter of 8 inches or less) for tasks performed outdoors only	• Use saw equipped with commercially available dust collection system. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. • Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency.	None	None
4a	Walk-behind saws when used outdoors	• Use saw equipped with integrated water delivery system that continuously feeds water to the blade. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
4b	Walk-behind saws when used indoors or in an enclosed area	• Use saw equipped with integrated water delivery system that continuously feeds water to the blade. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	APF 10	APF 10
5	Drivable saws for tasks performed outdoors only	• Use saw equipped with integrated water delivery system that continuously feeds water to the blade. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
6	Rig-mounted core saws or drills	• Use tool equipped with integrated water delivery system that supplies water to cutting surface. • Operate and maintain tool in accordance with	None	None

Equipment/ Task		Engineering and work practice control methods	Required respiratory. protection and minimum assigned protection factor (APF)	
			≤ 4 hrs/ shift	> 4 hrs/ shift
		manufacturer's instructions to minimize dust emissions.		
7	Handheld and stand-mounted drills (including impact and rotary hammer drills)	• Use drill equipped with commercially available shroud or cowling with dust collection system. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. • Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. • Use a HEPA-filtered vacuum when cleaning holes.	None	None
8	Dowel drilling rigs for concrete for tasks performed outdoors only	• Use shroud around drill bit with a dust collection system. • Dust collector must have a filter with 99% or greater efficiency and a filter cleaning mechanism. • Use a HEPA-filtered vacuum when cleaning holes.	APR 10	APR 10
9a	Vehicle-mounted drilling rigs for rock and concrete	• Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector.	None	None
9b	Vehicle-mounted drilling rigs for rock and concrete	• Operate from within an enclosed cab and use water for dust suppression on drill bit.	None	None
10a	Jackhammers and handheld powered chipping tools when used outdoors	• Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact.	None	APR 10
10b	Jackhammers and handheld powered chipping tools when used indoors or in an enclosed area	• Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact.	APR 10	APR 10
10c	Jackhammers and handheld powered chipping tools when used outdoors	• Use tool equipped with commercially available shroud and dust collection system. • Operate and maintain tool in accordance with	None	APR 10

Equipment/ Task		Engineering and work practice control methods	Required respiratory. protection and minimum assigned protection factor (APF)	
			≤ 4 hrs/ shift	> 4 hrs/ shift
		manufacturer's instructions to minimize dust emissions. • Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.		
10d	Jackhammers and handheld powered chipping tools when used indoors or in an enclosed area	• Use tool equipped with commercially available shroud and dust collection system. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. • Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.	APR 10	APR 10
11	Handheld grinders for mortar removal (i.e., tuckpointing)	• Use grinder equipped with commercially available shroud and dust collection system. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. • Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.	APR 10	APR 25
12a	Handheld grinders for uses other than mortar removal for tasks performed outdoors only	• Use grinder equipped with integrated water delivery system that continuously feeds water to the grinding surface. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
12b	Handheld grinders for uses other than mortar removal when used outdoors	• Use grinder equipped with commercially available	None	None

Equipment/ Task		Engineering and work practice control methods	Required respiratory. protection and minimum assigned protection factor (APF)	
			≤ 4 hrs/ shift	> 4 hrs/ shift
		shroud and dust collection system. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. • Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.		
12c	Handheld grinders for uses other than mortar removal when used indoors or in an enclosed area	• Use grinder equipped with commercially available shroud and dust collection system. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. • Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.	None	APR 10
13a	Walk-behind milling machines and floor grinders	• Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
13b	Walk-behind milling machines and floor grinders	• Use machine equipped with dust collection system recommended by the manufacturer. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. • Dust collector must provide the air flow recommended by the manufacturer, or greater, and have a filter with 99% or	None	None

Equipment/ Task		Engineering and work practice control methods	Required respiratory. protection and minimum assigned protection factor (APF)	
			≤ 4 hrs/ shift	> 4 hrs/ shift
		greater efficiency and a filter-cleaning mechanism. • When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes.		
14	Small drivable milling machines (less than half-lane)	• Use a machine equipped with supplemental water sprays designed to suppress dust. • Water must be combined with a surfactant. • Operate and maintain machine to minimize dust emissions.	None	None
15a	Large drivable milling machines (half-lane and larger) for cuts of any depth on asphalt only	• Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. • Operate and maintain machine to minimize dust emissions.	None	None
15b	Large drivable milling machines (half-lane and larger) for cuts of four inches in depth or less on any substrate	• Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. • Operate and maintain machine to minimize dust emissions.	None	None
15c	Large drivable milling machines (half-lane and larger) for cuts of four inches in depth or less on any substrate	• Use a machine equipped with supplemental water spray designed to suppress dust. • Water must be combined with a surfactant. • Operate and maintain machine to minimize dust emissions.	None	None
16	Crushing machines	• Use equipment designed to deliver water spray or mist for dust suppression at crusher and other points where dust is generated (e.g., hoppers, conveyers, sieves/sizing or vibrating components, and discharge points). • Operate and maintain machine in accordance with manufacturer's instructions to minimize dust emissions.	None	None

Equipment/ Task		Engineering and work practice control methods	Required respiratory. protection and minimum assigned protection factor (APF)	
			≤ 4 hrs/ shift	> 4 hrs/ shift
		• Use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote-control station.		
17a	Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials	• Operate equipment from within an enclosed cab.	None	None
17b	Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials	• When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions.	None	None
18a	Heavy equipment and utility vehicles for tasks such as grading and excavating but not including demolishing, abrading, or fracturing silica-containing materials.	• Apply water and/or dust suppressants as necessary to minimize dust emissions.	None	None
18b	Heavy equipment and utility vehicles for tasks such as grading and excavating but not including demolishing, abrading, or fracturing silica-containing materials	• When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab.	None	None

When implementing the control measures specified in Table 1:

- For tasks performed indoors or in enclosed areas, provide a means of exhaust as needed to minimize the accumulation of visible airborne dust;
- For tasks performed using wet methods, apply water at flow rates sufficient to minimize release of visible dust;
- For measures implemented that include an enclosed cab or booth, ensure that the enclosed cab or booth:
    - Is maintained as free as practicable from settled dust;
    - Has door seals and closing mechanisms that work properly;

- Has gaskets and seals that are in good condition and working properly;
- Is under positive pressure maintained through continuous delivery of fresh air;
- Has intake air that is filtered through a filter that is 95% efficient in the 0.3-10.0 µm range (e.g., MERV-16 or better); and
- Has heating and cooling capabilities.

- Where an employee performs more than one task included on CAL-OSHA's Construction Standard Table 1 during the course of a shift, and the total duration of all tasks combined is more than four hours, the required respiratory protection for each task is the respiratory protection specified for more than four hours per shift. If the total duration of all tasks on Table 1 combined is less than four hours, the required respiratory protection for each task is the respiratory protection specified for less than four hours per shift.

Control Methods

LAUSD will provide control methods that are either consistent with Table 1 or otherwise minimize worker exposures to Silica. These exposure control methods can include engineering controls, work practices, and respiratory protection. Listed below are control methods to be used when Table 1 is not followed:

- Wet methods, ventilation and/or HEPA-vacuum attachments, and possibly respiratory protection.

III. RESPIRATORY PROTECTION

Where respiratory protection is required by this program, Los Angeles Unified School District will provide each employee an appropriate respirator that complies with the requirements of the LAUSD's Respiratory Protection Program and the CAL-OSHA Respiratory Protection Standard (CCR, Title 8, Section 5144).

Respiratory protection is required where specified by the CAL-OSHA Construction Standard Table 1, for tasks not listed in Table 1, or where it has not fully and properly implemented the engineering controls, work practices, and respiratory protection described in Table 1. Situations requiring respiratory protection include:

- Where exposures exceed the PEL during periods necessary to install or implement feasible engineering and work practice controls;
- Where exposures exceed the PEL during tasks, such as certain maintenance and repair tasks, for which engineering, and work practice controls are not feasible; and
- During tasks for which an employer has implemented all feasible engineering and work practice controls and such controls are not sufficient to reduce exposures to or below the PEL.

IV. HOUSEKEEPING

Los Angeles Unified does not allow dry sweeping or dry brushing where such activity could contribute to employee exposure to respirable crystalline silica unless wet sweeping, HEPA-filtered vacuuming, or other methods that minimize the likelihood of exposure are not feasible.

Los Angeles Unified School District does not allow compressed air to be used to clean clothing or surfaces where such activity could contribute to employee exposure to respirable crystalline silica unless:

- The compressed air is used in conjunction with a ventilation system that effectively captures the dust cloud created by the compressed air; or

- No alternative method is feasible.

V. WRITTEN EXPOSURE CONTROL PLAN

When employee exposure on a construction project is expected to be at or above the Action Level, a Written Exposure Control Plan (ECP) will be established and implemented. This ECP will contain at least the following elements:

- A description of the tasks in the workplace that involve exposure to Respirable Crystalline Silica;

- A description of the engineering controls, work practices, and respiratory protection used to limit employee exposure to Respirable Crystalline Silica for each task;

- A description of the housekeeping measures used to limit employee exposure to Respirable Crystalline Silica; and

- A description of the procedures used to restrict access to work areas, when necessary, to minimize the number of employees exposed to Respirable Crystalline Silica and their level of exposure, including exposures generated by other employers or sole proprietors.

The written ECP will designate a Competent Person to make frequent and regular inspections of job sites, materials, and equipment to ensure the ECP is implemented.

The written ECP will be reviewed at least annually to evaluate the effectiveness of it and update it as necessary. Having said this, ECP's are project specific, and most project durations do not exceed a year. The written ECP will be readily available for examination and copying, upon request, to each employee covered by this program and/or ECP, their designated representatives, and CAL-OSHA.

VI. MEDICAL SURVEILLANCE

Los Angeles Unified implemented and maintained a medical surveillance program that complies with the requirements of Title 8 CCR 1532.3(h).

Medical surveillance will be made available for each employee who will be required to use a respirator for 30 or more days per year due to their respirable crystalline silica exposure. Medical surveillance (i.e. medical examinations and procedures) will be performed by a Physician or Other Licensed Health Care Professional (PLHCP) and provided at no cost to the employee at a reasonable time and place.

All designated employees are required to complete an initial (baseline) medical examination within 30 days of initial assignment and a bi-annual medical examination, which includes: chest X-ray, pulmonary function test, review medical and work history performed by a PLHCP.

VII. HAZARD COMMUNICATION

Los Angeles Unified established and implemented a Hazard Communication Program that complies with Title 8 CCR, 5194: Hazard Communication and Title 8 CCR, 1532.3(i): Respirable Crystalline Silica.

All employees received annual Hazard Communication training, which included a review of the employee's right to know about hazardous chemicals, hazardous dust (crystalline silica), and how to read & understand the product Safety Data Sheets (SDSs).

VIII. RECORDKEEPING

LAUSD will make and maintain an accurate record of all exposure measurements taken to assess employee exposure to Respirable Crystalline Silica. This record will include at least the following information:

- The date of measurement for each sample taken;
- The task monitored;
- Sampling and analytical methods used;
- Number, duration, and results of samples taken;
- Identity of the laboratory that performed the analysis;

- Type of personal protective equipment (PPE), such as respirators, worn by the employees monitored; and

- Name, and job classification of all employees represented by the monitoring, indicating which employees were actually monitored.

LAUSD will ensure that exposure records are maintained and made available in accordance with (CCR, Title 8, Section 3204). Exposure records will be kept for at least 30 years.

The employer shall make and maintain an accurate record of all objective data relied upon to comply with the requirements of the CAL-OSHA Respirable Crystalline Silica Construction Standard. This record shall include at least the following information:

- The Crystalline Silica-containing material in question;

- The source of the objective data;

- The testing protocol and results of testing;

- A description of the process, task, or activity on which the objective data were based; and

- Other data relevant to the process, task, activity, material, or exposures on which the objective data were based.

LAUSD will ensure that objective data are maintained and made available in accordance with (CCR, Title 8, Section 3204). Objective data records will be kept for at least 30 years.

LAUSD will make and maintain an accurate record for each employee enrolled in the Medical Surveillance portion of this program. The record shall include the following information about the employee:

- Name and employee number;

- A copy of the PLHCPs' and/or Specialists' written medical opinions; and

- A copy of the information provided to the PLHCPs and Specialists.

LAUSD will ensure that medical records are maintained and made available in accordance with (CCR, Title 8, Section 3204). Medical records will be kept secure and confident for at least the duration of employment plus 30 years. It is necessary to keep these records for extended periods because Silica-related diseases such as cancer often cannot be detected until several decades after exposure.

IX. PROGRAM EVALUATION

This program will be reviewed and evaluated on an annual basis by the OEHS unless changes to operations, the CAL-OSHA Title 8 section 1532.3 of the California Code of Regulations, Occupational Exposure to Respirable Crystalline Silica and Federal OSHA's Respirable Crystalline Silica Construction Standard (29 CFR 1926.1153), or another applicable CAL-OSHA and Federal OSHA Standard require an immediate re-validation of this program.

X. REFERENCES

Cal /OSHA Standard for Occupational Exposures to Respirable Crystalline Silica California Code of Regulations, Title 8, Section 1532.3.

APPENDIX A

Written Exposure Control Plan (ECP) template

SILICA EXPOSURE CONTROL WORK PLAN

LAUSD UNIT PERFORMING THE WORK:	PERSON COMPILING THE PLAN/TITLE:
PROJECT NAME:	COMPETENT PERSON:
PROJECT LOCATION:	

PROJECT DESCRIPTION:

MATERIAL:	TASK:
EQUIPMENT AND CONTROLS:	
TASK/CONTROL DESCRIPTION:	

MATERIAL:	TASK:
EQUIPMENT AND CONTROLS:	
TASK/CONTROL DESCRIPTION:	

MATERIAL:	TASK:
EQUIPMENT AND CONTROLS:	
TASK/CONTROL DESCRIPTION:	

SILICA EXPOSURE CONTROL WORK PLAN

SAFETY OF OTHERS: DEMOLITION WORK WILL BE SCHEDULED DURING NIGHT SHIFT TO MINIMIZE THE
NUMBER OF EMPLOYEES EXPOSED TO AIRBORNE DUST. WATER SPRAY WILL BE USED TO CONTROL DUST.
NON- AUTHORIZED INDIVIDUALS WILL NOT BE ALLOWED IN THE WORK AREAS DURING ACTIVITIES THAT
INVOLVE DISTURBING SILICA CONTAINING MATERIALS.

WORKER TRAINING: EMPLOYEE TRAINING IN SILICA HAZARDS, PROPER WORK PROCEDURES TO CONTROL
DUST, PROPER USE OF PERSONAL PROTECTIVE EQUIPMENT AND SAFETY GEAR, AND SELECTION, USE, AND
MAINTENANCE OF RESPIRATORS. TRAINING TO BE PROVIDED THROUGH A COMBINATION OF TOOLBOX
SAFETY TALKS, AND MORE FORMAL CLASSROOM TRAINING WITH HANDS ON DEMONSTRATIONS.

HOUSEKEEPING: DRY SWEEPING WILL BE PROHIBITED. WET SWEEPING, HPEA FILTERED VACUUMING, OR
OTHER METHODS WILL BE USED, UNLESS NOT FEASIBLE. COMPRESSED AIR WILL NOT BE USED TO CLEAN
EQUIPMENT OR WORKER CLOTHING. HEPA FILTERED VACUUM WILL BE USED TO CLEAN CLOTHING.

MEDICAL SURVEILLANCE: ALL EMPLOYEES USING RESPIRATORY PROTECTION DUE TO SILICA EXPOSURE
FOR 30 OR MORE DAYS PER YEAR WILL BE INCLUDED IN THE MEDICAL SURVEILLANCE PROGRAM WHICH
INDLUDES INITIAL EXAMINATION (MEDICAL HISTORY, PHYSICAL EXAMINATION WITH EMPHASIS ON
RESPIRATORY SYSTEM, CHEST X-RAY, PULMONARY FUNCTION TEST, TESTING FOR LATENT TUBERCULOSIS
INFECTION, AND ANY OTHER TESTS DEEMED NECESSARY BY THE PHYSICIAN). PERIODIC EXAMINATIONS WILL
ALSO BE PROVIDED AT LEAST EVERY THREE (3) YEARS.

OTHER CONSIDERATIONS: HEARING PROTECTION WILL BE PROVIDED TO EMPLOYEES OPERATING, OR
WORKING AROUND, LOUD EQUIPMENT, TOOLS, OR OTHER LOUD OPERATIONS. PRECAUTIONS WILL BE TAKEN
TO AVOID ELECTRICAL SHOCKS INCLUDING INSPECTING POWER CORDS FOR SIGNS OF DAMAGE, REMOVING
DAMAGED POWER CORDS FROM SERVICE IMMEDIATELY, AND ENSURING GROUND FAULT CIRCUIT
INTERUPTERS (GFCI) ARE PROVIDED, USED, AND FUNCTIONING PROPERLY.

APPENDIX B

Cal/OSHA Silica Hazard Alert & Related Handouts

OSHA® FactSheet

CONTROL SILICA DUST
Breathe Easier

OSHA's Respirable Crystalline Silica Standard for Construction

Workers who are exposed to respirable crystalline silica dust are at increased risk of developing serious silica-related diseases. OSHA's standard requires employers to take steps to protect workers from exposure to respirable crystalline silica.

What is Respirable Crystalline Silica?

Crystalline silica is a common mineral that is found in construction materials such as sand, stone, concrete, brick, and mortar. When workers cut, grind, drill, or crush materials that contain crystalline silica, very small dust particles are created. These tiny particles (known as "respirable" particles) can travel deep into workers' lungs and cause silicosis, an incurable and sometimes deadly lung disease. Respirable crystalline silica also causes lung cancer, other potentially debilitating respiratory diseases such as chronic obstructive pulmonary disease, and kidney disease. In most cases, these diseases occur after years of exposure to respirable crystalline silica.

How are Construction Workers Exposed to Respirable Crystalline Silica?

Exposure to respirable crystalline silica can occur during common construction tasks, such as using masonry saws, grinders, drills, jackhammers and handheld powered chipping tools; operating vehicle-mounted drilling rigs; milling; operating crushing machines; using heavy equipment for demolition or certain other tasks; and during abrasive blasting and tunneling operations. About two million construction workers are exposed to respirable crystalline silica in over 600,000 workplaces.

What Does the Standard Require?

The standard (29 CFR 1926.1153) requires employers to limit worker exposures to respirable crystalline silica and to take other steps to protect workers. Employers can either use a control method laid out in **Table 1** of the construction standard, or they can measure workers' exposure to silica and independently decide which dust controls work best to limit exposures in their workplaces to the permissible exposure limit (PEL).

What is Table 1?

Table 1 matches 18 common construction tasks with effective dust control methods, such as using water to keep dust from getting into the air or using a vacuum dust collection system to capture dust. In some operations, respirators may also be needed. Employers who follow Table 1 correctly are not required to measure workers' exposure to silica from those tasks and are not subject to the PEL.

Table 1 Example: Handheld Power Saws

If workers are sawing silica-containing materials, they can use a saw with a built-in system that applies water to the saw blade. The water limits the amount of respirable crystalline silica that gets into the air.

Table 1: Specified Exposure Control Methods When Working With Materials Containing Crystalline Silica

Equipment/ Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hrs/ shift	> 4 hrs/ shift
Handheld power saws (any blade diameter)	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. • When used outdoors. • When used indoors or in an enclosed area.	None APF 10	APF 10 APF 10

Excerpt from Table 1 in 29 CFR 1926.1153

In this example, if a worker uses the saw outdoors for four hours or less per day, no respirator would be needed. If a worker uses the saw for more than four

hours per day or any time indoors, he or she would need to use a respirator with an assigned protection factor (APF) of at least 10, such as a NIOSH-certified filtering facepiece respirator that covers the nose and mouth (sometimes referred to as a dust mask). See the respiratory protection standard (29 CFR 1910.134) for information on APFs.

Alternative Exposure Control Methods

Employers who do not fully implement the control methods on Table 1 must:

- **Determine the amount of silica that workers are exposed to** if it is, or may reasonably be expected to be, at or above the **action level of 25 µg/m³** (micrograms of silica per cubic meter of air), averaged over an 8-hour day;
- Protect workers from respirable crystalline silica exposures above the **PEL of 50 µg/m³**, averaged over an 8-hour day;
- Use **dust controls** and safer work methods to protect workers from silica exposures above the PEL; and
- Provide **respirators** to workers when dust controls and safer work methods cannot limit exposures to the PEL.

What Else Does the Standard Require?

Regardless of which exposure control method is used, all construction employers covered by the standard are required to:

- Establish and implement a **written exposure control plan** that identifies tasks that involve exposure and methods used to protect workers, including procedures to restrict access to work areas where high exposures may occur;
- Designate a **competent person** to implement the written exposure control plan;
- Restrict **housekeeping** practices that expose workers to silica, such as use of compressed air without a ventilation system to capture the dust and dry sweeping, where effective, safe alternatives are available;
- Offer **medical exams**—including chest X-rays and lung function tests—every three years for workers who are required by the standard to wear a respirator for 30 or more days per year;
- **Train workers** on the health effects of silica exposure, workplace tasks that can expose them to silica, and ways to limit exposure; and
- **Keep records** of workers' silica exposure and medical exams.

Applying water to the blade of a handheld power saw reduces the amount of dust created when cutting.

Additional Information

Additional information on OSHA's silica standard can be found at www.osha.gov/silica.

OSHA can provide compliance assistance through a variety of programs, including technical assistance about effective safety and health programs, workplace consultations, and training and education.

OSHA's On-Site Consultation Program offers free, confidential occupational safety and health services to small and medium-sized businesses in all states and several territories across the country, with priority given to high-hazard worksites. On-Site consultation services are separate from enforcement and do not result in penalties or citations. Consultants from state agencies or universities work with employers to identify workplace hazards, provide advice on compliance with OSHA standards, and assist in establishing and improving safety and health management systems. To locate the OSHA On-Site Consultation Program nearest you, call 1-800-321-OSHA or visit www.osha.gov/consultation.

How to Contact OSHA

Under the Occupational Safety and Health Act of 1970, employers are responsible for providing safe and healthful workplaces for their employees. OSHA's role is to ensure these conditions for America's working men and women by setting and enforcing standards, and providing training, education and assistance. For more information, visit www.osha.gov or call OSHA at 1-800-321-OSHA (6742), TTY 1-877-889-5627.

This is one in a series of informational fact sheets highlighting OSHA programs, policies or standards. It does not impose any new compliance requirements. For a comprehensive list of compliance requirements of OSHA standards or regulations, refer to Title 29 of the Code of Federal Regulations. This information will be made available to sensory-impaired individuals upon request. The voice phone is (202) 693-1999; teletypewriter (TTY) number: (877) 889-5627.

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