**USER INSTRUCTIONS**

**Template Exposure Control Plan for Respirable Crystalline Silica**

**General Industry (not for stone industries)**

Cal/OSHA requires employers who under any foreseeable condition could have respirable crystalline silica exposures above the Action Limit to have an [Exposure Control Plan for Respirable Crystalline Silica (RCS)](https://www.dir.ca.gov/title8/5204.html#:~:text=(3)%20Written%20exposure%20control%20plan.).

The Cal/OSHA Action Level (AL) is 25 micrograms per cubic meter of air (25 μg/m3) as an 8-Hour time-weighted average (TWA). This is equivalent of a half a packet of sugar sprinkled over a football field!

**This plan covers general industry tasks. It does NOT cover high-exposure trigger tasks on artificial (>0.1% silica) or natural (>10% silica) stone, such as cutting, crushing, polishing, or related clean up.**

General industries/processes covered by this plan could include, for example:

Foundries

Creating cement products in molds/forms

Transfers and transport of silica materials

Glass manufacturing

Sand or Abrasive blasting of metal

Pouring sand or quartz

This plan does NOT apply to construction work covered under[*Title 8 CCR 1532.3*](https://www.dir.ca.gov/title8/1532_3.html)*,*agriculture operations covered under[*Title 8 CCR 3436*](https://www.dir.ca.gov/title8/3436.html)***,*** exposures from processing sorptive clays, or general industry work on artificial stone (>0.1% silica) or natural stone (>10% silica).

State Fund has developed this model plan to assist you in creating your own silica exposure control plan. You can use this template to create your program by customizing it to fit your business operations.

### **HOW TO USE THE TEMPLATE**

Your silica exposure control plan must be specific to your business and accurately describe what you do at your workplace. Please be aware that Cal/OSHA expect you to put in action what you write in the plan.

To create a plan of your own, fill in the blanks and tables **marked in red** with your company’s own procedures.

You can find examples of methods that reduce silica exposures in this template plan in **red font** (Table 1). You can apply to your business and/or add in your own.

Links to additional resources are provided. You can review and print any needed to help with your program.

### **WHAT YOU NEED TO KNOW**

This plan is a template to help you create a silica exposure control plan that is specific to your business. It may not cover all details in the silica general industry regulation [*Title 8 CCR 5204*](https://www.dir.ca.gov/title8/5204.html#:~:text=(a)%20Scope%20and%20application.) that apply to your workplace. You should review the full text of the regulation to understand all of the requirements.

You are responsible for customizing the program to your business and worksite(s).

You can delete this instruction page when your plan is finished. Then click the “[Update Table](https://support.microsoft.com/en-us/office/update-a-table-of-contents-6c727329-d8fd-44fe-83b7-fa7fe3d8ac7a)” command to update page numbers in your table of contents.

**General Industry (non-stone operations) Silica Exposure Control Plan for (fill in your company name here)**

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**General Industry Silica Exposure Control Plan for**

**Fill in Your Company Name**

**DATE OF LAST REVIEW:** [Type the date of last review]

**INDIVIDUAL RESPONSIBLE FOR THE PROGRAM:** [Type the name of the responsible person and their job title]

**This silica exposure control plan covers employee silica exposures at the following location(s):**

[Insert address(es) where your business handles silica in any amount]

# **EXPOSURE ASSESSMENT**

All tasks with a reasonable expectation for exposure to respirable crystalline silica (RCS) have been identified and controls implemented, as shown in Table 1 below. [Air samples](https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/OHB/CDPH%20Document%20Library/AirMonitoringGuideSilicosis.pdf) were collected initially from representative employees for each job class that are working on the same material, on the same task, in the same area, and on the same shift. The air samples were collected for an 8-hour time weighted average (TWA) exposure to silica dust. Initial and any ongoing air sampling results are shown in the table below. Air sampling reports are included in Appendix A.

Any employee or their designated representative can observe the air monitoring, and we will provide the observer with protective clothing and equipment and ensure that it is used properly.

In some cases, objective data may be used in place of or to supplement air sampling data, per sections [(a)(2)](https://www.dir.ca.gov/title8/5204.html#:~:text=(2)%20This%20section%20does%20not%20apply%20where%20the%20employer%20has%20objective%20data%20demonstrating%20that%20employee%20exposure%20to%20respirable%20crystalline%20silica%20will%20remain%20below%2025%20micrograms%20per%20cubic%20meter%20of%20air%20(25%20%CE%BCg/m3)%20as%20an%208%2Dhour%20time%2Dweighted%20average%20(TWA)%20under%20any%20foreseeable%20conditions.) or [(m)(2)](https://www.dir.ca.gov/title8/5204.html#:~:text=with%20Section%203204.-,(2)%20Objective%20data.,-(A)%20The%20employer) of the silica regulation.

Depending on the silica dust levels detected during initial air sampling, process changes to reduce exposures and repeat air sampling are done according to the schedule listed in Table 2 below. Based on air sampling results, we follow the requirements set out in Table 3 for regulated areas, engineering/work practice controls, medical surveillance, and respirators.

**Table 1: Tasks with Exposures to Respirable Crystalline Silica, Control Measures and Air Sampling Results\***

| **TASK DESCRIPTION**  *(include tools/equipment used, silica-containing material to be worked on/with, and conditions, like inside/outside)* | **CONTROL MEASURES**  *(Include engineering controls, work practices, and what types of respirators are used)* | **HOUSEKEEPING MEASURES TAKEN TO MINIMIZE SILICA EXPOSURE\*\*** | **AIR SAMPLING RESULTS FOR THIS TASK** |
| --- | --- | --- | --- |
| Task 1:  ***Example:***  *Clean out cement mixer* | ***Example:***   * *All cleaning must be done on wet cement* * *If it has dried, wet it again and flush out* * *If hardened, use a pneumatic chisel tool* * *Collect removed wet cement chunks in dumpster to for recycling* | ***Example:***   * *Employees use hoses to wet/wash floor to a floor drain* * *Water with silica residues is filtered before discharge* * *Filter maintenance is done wet* * *HEPA- filtered vacuums to clean up cement dust residues in corners* | ***Example:*** *John Blank – 0.013 mg/m3*  *(8-hour time weighted average)*  *6-18-23*  *Tony Tiger – 0.009 mg/m3*  *(8-hour TWA)*  *6-18-23* |
| Task 2:  Describe Task | Describe Control Measures | Describe Housekeeping Measures | List Air Sampling Results |
| Task 3:  Describe Task | Describe Control Measures | Describe Housekeeping Measures | List Air Sampling Results |
| Task 4:  Describe Task  ADD ROWS AS NEEDED | Describe Control Measures | Describe Housekeeping Measures | List Air Sampling Results |
| **Notes:**  \* This table and written program are reviewed annually and updated as needed  \*\* Dry sweeping or brushing is not allowed. Compressed air is not used for cleaning clothing or surfaces unless it is used in conjunction with a capture ventilation system or no other cleaning option is feasible. | | | |

**Table 2: Air Sampling Criteria and Required Follow-up\***

| **RCS Exposure\*\***  (8-hour TWA) | **Initial or Follow-up Air Sampling?** | **Action Required** |
| --- | --- | --- |
| Below AL | Initial | No further air sampling required |
|  |  |  |
| Above PEL | Initial or Follow-up | Review task, take steps to reduce exposure, and repeat air sampling within 3 months. |
| Above AL and Below PEL | Initial or Follow-up | Review task, take steps to reduce exposure, and repeat air sampling within 6 months. |
| Below AL  (when sample collected after previous monitoring exceeded AL or PEL) | Follow-up | Repeat air sampling within 6 months of the most recent monitoring until two consecutive measurements, taken 7 or more days apart are below the AL.  When 2 consecutive measurements taken per above are below the AL, discontinue sampling for those employees whose exposures are represented by such sampling unless there is a change in process. |
|  |  |  |
| All circumstances | Initial and Follow-up | Employees wear respiratory protection until silica levels are shown to be at or below the Cal/OSHA permissible exposure limit (0.05 mg/m3). |
| **Definitions:**  **AL:** Action Level  **PEL:** (Cal OSHA) Permissible Exposure Limit  **RCS:** Respirable Crystalline Silica  **TWA:** Time-weighted Average | | |
| **Regulatory Exposure Limits and Information:**  AL for RCS = 0.025 mg/m3;  PEL for RCS = 0.05 mg/m3  **Notes:**  \* Our company will follow the above guidelines, per [Title 8 CCR 5204(d)(3)](https://www.dir.ca.gov/title8/5204.html#:~:text=(3)%20Scheduled%20monitoring%20option.). Depending on the initial air sampling results, we will perform follow up air monitoring in accordance with these guidelines.  \*\* Employees are notified of results in writing within 15 working days of completion of the exposure assessment. If an exposure assessment indicates that employee exposure is above the PEL, the written notification to employees will include the corrective action being taken to reduce employee exposure to or below the PEL. | | |

**Table 3: Requirements Based on Air Monitoring Results**

| **RCS Exposure** | **Regulated Area Requirement** | **Engineering/Work Practice Controls** | **Respiratory Protection Requirement** | **Medical Monitoring Requirement** |
| --- | --- | --- | --- | --- |
| Below AL | -- | -- | -- | -- |
| Above AL and Below PEL | -- | -- | -- | For each employee who will be exposed to respirable crystalline silica at or above the action level (0.025 mg/m3) for 30 or more days per year. |
| Above PEL | Establish a regulated area. | Use engineering and work practice controls to reduce exposure to respirable crystalline silica to or below the PEL. | Respiratory protection is required. | For each employee who will be exposed to respirable crystalline silica at or above the action level (0.025 mg/m3) for 30 or more days per year. |

# **EMPLOYEE NOTIFICATION OF AIR SAMPLING RESULTS**

Employees are notified of results in writing within 15 working days of completion of the exposure assessment. If an exposure assessment indicates that employee exposure is above the PEL, the written notification to employees will include the corrective action being taken to reduce employee exposure to or below the PEL.

# **MEDICAL MONITORING**

Employees exposed at or above the action limit (> 0.025 mg/m3) for 30 or more days per year will be offered medical surveillance at no cost and at a reasonable time and place. The exam must be offered within 30 days of starting employment and then at least every 3 years thereafter, or more frequently if recommended by the medical provider, unless the employee had an equivalent exam within the last 3 years. The exams will follow the medical surveillance procedures in [8CCR5204(j).](https://www.dir.ca.gov/title8/5204.html#:~:text=(j)%20Medical%20surveillance.)

We will ensure that the occupational medical provider is qualified and we will provide them with descriptions of each employee’s job duties, past and current silica exposure air monitoring records, a description of PPE used and duration of use, and copies of previous employment related medical exam records.

The silica medical exam will include:

* Medical history, including past silica exposures and respiratory disease
* Physical exam
* Chest X-Ray read by NIOSH certified B-Reader
* Pulmonary function test
* Tuberculosis testing
* Any other tests recommended by the medical provider

The provider gives the employee a written medical report of findings, including if they are at risk for medical impairment due to silica exposure and any limitations on respirator use. The provider also will give us (the company) a written medical opinion which will include any limitations on the employee’s use of respirators. We will ensure that both reports are provided timely, within 30 days of the exam.

# **CHANGES IN PROCESS**

For any changes in process, production, control equipment, personnel or work practices that my reasonably expected to result in new or additional exposure to respirable crystalline silica above the action level, air monitoring will be done again.

**REGULATED AREAS [INCLUDE IF NEEDED IN YOUR PLAN]**

Regulated areas have been established where employees’ exposure to airborne concentrations of respirable crystalline silica exceed the PEL (or can reasonably be expected to).

The boundaries of the regulated area will be clearly marked and isolated to minimize the number of employees entering the area. Signs will be posted at entrances to regulated areas with the following language and warnings:

DANGER

RESPIRABLE CRYSTALLINE SILICA

CAUSES PERMANENT LUNG DAMAGE THAT MAY LEAD TO DEATH

MAY CAUSE CANCER

WEAR RESPIRATORY PROTECTION IN THIS AREA

AUTHORIZED PERSONNEL ONLY

PELIGRO

SÍLICE CRISTALINA RESPIRABLE

PROVOCA DAÑO PERMANENTE A LOS PULMONES QUE PODRIA CAUSAR LA MUERTE

PUEDE PROVOCAR CÁNCER

USAR PROTECCIÓN RESPIRATORIA EN ESTA ÁREA

SOLO PERSONAL AUTORIZADO

Signs in other languages that are understandable to our employees will be posted, as appropriate.

Access to the regulated area will be limited to:

* Persons authorized by employer who need to work there
* Person (such as union reps) that are observing air monitoring
* Persons authorized by OSHA

Anyone who enters regulated areas will be provided with appropriate respiratory protection, and these individuals will be required to use the respiratory protection in the regulated areas.

**REPORTING CARCINOGEN USE**

Because silica dust is a regulated carcinogen, [we report our use of crystalline silica to Cal/OSHA](https://www.dir.ca.gov/dosh/Employer-RCS-Report) and take other actions pertaining to temporary worksites, emergency conditions, and posting of notices for employees, according to [Section 5203 Cal/OSHA Carcinogen Report of Use Requirements.](https://www.dir.ca.gov/title8/5203.html#:~:text=5203.%20Carcinogen%20Report%20of%20Use%20Requirements.)

For questions about reporting carcinogens, contact [Cal/OSHA Consultation Service](https://www.dir.ca.gov/dosh/consultation.html).

NOTE: Cal/OSHA Enforcement will prioritize inspections for employers who have not reported respirable crystalline silica use per Section 5203.

# **ENGINEERING AND WORK PRACTICES CONTROLS**

Engineering and work practice controls will be used to reduce and maintain employee exposure to respirable crystalline silica to or below the PEL, unless it can be demonstrated that such controls are not feasible. Wherever feasible engineering and work practice controls are not sufficient to reduce employee exposure to or below the PEL, these controls will be used nonetheless to reduce exposures as much as possible and the controls will be supplemented with the use of respiratory protection.

Any dust reduction systems are installed, operated, and maintained in accordance to manufacturer recommendations (to the extent they exist); their operation is monitored by employees and supervisors for proper function throughout the work shift. Local exhaust ventilation systems are tested annually and waste materials collected on filters or other catch mechanisms are disposed of properly so as not to expose workers to silica dust.

**RESPIRATORY PROTECTION**

[MAKE SURE TO HAVE A RESPIRATOR PLAN IF YOU SUPPLY THEM]

Appropriate respiratory protection will be provided to all employees with exposures over the Cal/OSHA PEL for respirable crystalline silica. This includes:

* The interim time while improved engineering and work practice controls are being implemented
* During tasks, such as repair and maintenance, where engineering controls or work practice controls are not feasible
* If all feasible controls are not sufficient to reduce exposures below the PEL
* In regulated areas

If respirator use is required, a respiratory protection program will be implemented in accordance with [T8CCR5144](https://www.dir.ca.gov/title8/5144.html) of the California Code of Regulations.

# **HOUSEKEEPING**

Clean-up and housekeeping practices are critical to reducing exposure to RCS, and are outlined in Table 1 above. Our cleaning practices will not include dry sweeping or dry brushing. In addition, compressed air is not permitted to be used to clean clothing or surfaces. The only exception is if a ventilation system effectively captures the dust cloud created by the compressed air- include this if you use compressed air with ventilation, otherwise delete this red font sentence.

# **IMMINENT HAZARDS**

Cal/OSHA can shut down our business if an [imminent hazard](https://www.dir.ca.gov/title8/5204.html#:~:text=(B)%20Subsection%20(h,of%20Use%20Requirements.) is present at our facility. To avoid creating an imminent hazard, we do the following:

* Where respiratory protection is required, our company provides each employee with an appropriate respirator that complies with the requirements of the [Cal/OSHA Respiratory Standard](https://www.dir.ca.gov/title8/5144.html).
* [Report silicosis cases or lung cancer related to silica dust exposure to Cal/OSHA](https://www.dir.ca.gov/dosh/Employer-RCS-Report) within 24 hours of receiving information regarding these kinds of illnesses.
* [Report to Cal/OSHA about our employees’ exposure to silica dust](https://www.dir.ca.gov/dosh/Employer-RCS-Report), which is a [regulated carcinogen.](https://www.dir.ca.gov/title8/5203.html#:~:text=5203.%20Carcinogen%20Report%20of%20Use%20Requirements.)

# **HAZARD COMMUNICATION**

Respirable crystalline silica is included in our company’s Hazard Communication Standard (HCS) per the [Cal/OSHA Hazard Communication Regulations](https://www.dir.ca.gov/title8/5194.html). Each employee has access to labels on containers of crystalline silica and safety data sheets, and is trained in accordance with the provisions of the HCS. We ensure that at least the following hazards are addressed in our HCS: Cancer, lung effects, immune system effects, and kidney effects.

All trainings, communications, signs, labels, or written information are provided in an appropriate language and at an appropriate education/literacy level so our employees can understand them.

# **EMPLOYEE TRAINING**

All employees, including supervisors, who are exposed to silica dust will be trained (in a language they best understand) so they have a good understa­nding of the following topics:

1. [The health hazards associated with exposure to silica](https://www.osha.gov/silica-crystalline/health-effects#:~:text=Breathing%20in%20very%20small%20(%22respirable,COPD)%2C%20and%20kidney%20disease.) dust, including a review of safety data sheets and labels:
   1. Lung cancer, silicosis (an incurable lung disease that can lead to disability and death), chronic obstructive lung disease (COPD), immune system effects, and kidney disease.
2. Symptoms related to exposure to respirable crystalline silica, such as cough, difficult breathing, fatigue, shortness of breath, weakness, fever, chest pain, or unexplained weight loss.
3. Specific tasks in the workplace that could result in exposure to respirable crystalline silica;
4. Specific measures the employer has implemented to prevent employees in each task from exposure to respirable crystalline silica, including engineering controls, work practices, and respirators to be used.
5. How to properly use and implement engineering controls, work practices, and respiratory protection to prevent employee exposure to respirable crystalline silica.
6. Personal practices to reduce silica exposures:
   1. The importance of good personal hygiene and housekeeping practices, such as not smoking tobacco products or eating prior to removing silica dusts from their persons.
   2. How to clean clothes and skin without releasing silica dust on selves or household.
   3. Avoiding activities that increase employee exposures to silica dusts.
7. Proper use and maintenance of dust reduction systems, including the safe handling and disposal of waste materials collected in connection with their use.
8. The contents of the [Cal/OSHA General Industry Silica Standard (8CCR5204)](https://www.dir.ca.gov/title8/5204.html) Copies must be readily available free of charge to employees.
9. The purpose and a description of the medical surveillance program required if exposures are at or above the action level for more than 30 days per year.
10. The increased risk of death that results from the combined effects of smoking and RCS exposure.
11. The increased risk of a latent tuberculosis infection becoming active after exposure to RCS.
12. They are encouraged by us to report any symptoms related to RCS exposure without fear of reprisal. We, the employer, will not take or threaten to take any adverse action against employees who report symptoms or who suffer from silica-related illness.

# **REPORTING OF SILICOSIS**

Within 24 hours of receiving information regarding a confirmed silicosis case or lung cancer related to respirable crystalline silica exposure, we shall report the following information to the [California Department of Public Health (CDPH)](https://forms.office.com/pages/responsepage.aspx?id=URsxH9n2U0GbrFXg75ZBuINJKo63kkpFiUnUDR-imO1UNk02VkFHR0c1S0g1QVRJS0ZSVjZFMUhYVyQlQCN0PWcu) and to [Cal/OSHA](https://www.dir.ca.gov/dosh/report-accident-or-injury.html) by phone or a specified online mechanism established by these agencies:

* 1. The name, phone number, email, and mailing address of each employee identified with silicosis or lung cancer, or their next of kin
  2. Date of birth of employee
  3. The employer’s business name, including any aliases or dba identifiers, and the employer’s phone number, email, and mailing address
  4. The name, phone number, email, physical address, and mailing address of the manager responsible for the facility where each employee with silicosis or lung cancer is, or was, employed
  5. The name, phone number, email, and mailing address of the diagnosing medical provider, and the date of diagnosis
  6. The number of years each employee identified with silicosis has been, or was, employed by the employer, and the tasks the employee engaged in during this time period, including the number and frequency of high-exposure tasks
  7. The specific protections, if any, that were implemented by the employer throughout the employee’s period of employment, to prevent exposure to respirable crystalline silica
  8. Results of air monitoring for respirable crystalline silica we conducted throughout the employee’s period of employment
  9. A description of any personal protective equipment we provided and used by the employee throughout the employee’s period of employment
  10. Whether or not we have reported our facility’s use of RCS with the Cal/OSHA as required by [Section 5203, Carcinogen Reporting](https://www.dir.ca.gov/title8/5203.html)
  11. Prior employers, if known, where employee had respirable crystalline silica exposure

# **RECORDKEEPING**

Records of the following documents will be retained, maintained, and made available in accordance with T8CCR5204:

1. All air sampling and objective data used to determine safe work practices and controls to reduce/eliminate silica exposures (Appendix A).
2. Accurate record for each employee covered by medical surveillance under [T8CCR5204(j](https://www.dir.ca.gov/title8/5204.html#:~:text=(j)%20Medical%20surveillance.)) will be made and maintained by [describe where these records will be stored and what person/job title maintain them].
3. Copy of this written exposure control plan and annual updates will be maintained by [describe where plans will be stored electronically, paper, both, or other].
4. If employees want a copy of medical or air sampling records they should contact Fill in Name and job title and the record will be provided within 15 days.

# **EXPOSURE CONTROL PLAN REVIEW AND AVAILABILITY**

The effectiveness of the written exposure control plan will be evaluated at least annually and updated as necessary by [describe how this will be accomplished and by what person and their job title].

It will be made readily available for examination and copying upon request to each affected employee (or their designated representative) by [describe how this will be accomplished].

# **Appendix A**

**Air Sampling Reports for Respirable Crystalline Silica Exposures**

[Employers, attach your air sampling reports here]