

## **Respirable Crystalline Silica Exposure Control Plan**

### **Policy**

The purpose of this program is to reduce employee Respirable Crystalline Silica and other hazardous chemical exposure to below the Permissible Exposure Limits (PELs) by means of engineering and work practice controls at our organization. This program meets the requirements of OSHA Standard 29 CFR 1910.1053 and 29CFR 1926.1153 for Respirable Crystalline Silica. These written procedures will be reviewed and we will evaluate the effectiveness of this exposure control plan at least annually and update it as necessary, if significant changes occur. All affected employees and their representatives have access to these written procedures.

#### **1. Definitions**

*Action level:* an airborne concentration of Respirable Crystalline Silica of  $25 \mu\text{g}/\text{m}^3$  ( $0.025 \text{ mg}/\text{m}^3$ ) calculated as an 8-hour time-weighted average. A compliance program must be implemented at exposures at or above the action level. See our written Respirable Crystalline Silica Program.

*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. The competent person must have the knowledge and ability necessary to fulfill the responsibilities set forth in paragraph 1926.1153 (g)(4) of the standard.

*Container:* any barrel, bottle, can, cylinder, drum, reaction vessel, storage tank, or the like, but does not include piping systems.

*Emergency:* any occurrence such as equipment failure, rupture of containers, or failure of control equipment that may or does result in an unexpected significant release of Respirable Crystalline Silica

*Employee exposure:* exposure to airborne Respirable Crystalline Silica that would occur if the employee were not using respiratory protective equipment.

*Permissible Exposure Limit* an airborne concentration of Respirable Crystalline Silica of  $50 \mu\text{g}/\text{m}^3$  ( $0.050 \text{ mg}/\text{m}^3$ ) calculated as an 8-hour time-weighted average.

*Regulated area:* any area where airborne concentrations of Respirable Crystalline Silica exceed or can reasonably be expected to exceed the Permissible Exposure Limits.

*Time-weighted Average (TWA):* airborne concentration averaged over an 8-hour time period.

## **2. Responsibilities**

The *Program Administrator* will:

- Issue and implement this plan and ensure that it meets applicable requirements
- Provide Hazard Communication training for Respirable Crystalline Silica
- Implement engineering and work practice controls to prevent exposure to Respirable Crystalline Silica above the action level
- Provide appropriate personal protective equipment for exposed employees
- Maintain exposure monitoring and medical surveillance records according to the recordkeeping section of this program
- Provide medical surveillance services for exposed employees
- Ensure affected employees and their representatives have access to the written Respirable Crystalline Silica exposure control procedures and copies of this plan.

*Managers and Supervisors* will:

- Know and understand the hazards of Respirable Crystalline Silica exposure
- Comply with all engineering and work practice controls in place to prevent Respirable Crystalline Silica exposure
- Provide time for medical services for exposed employees
- Ensure the availability and use of appropriate personal protective equipment for exposed employees

*Employees* will:

- Comply with all aspects of this Respirable Crystalline Silica exposure control plan and program
- Attend scheduled Hazard Communication Training
- Use engineering and work practice controls in place to prevent Respirable Crystalline Silica exposure
- Use personal protective equipment as necessary to prevent Respirable Crystalline Silica exposure

## **3. Program Activities**

Our organization works to ensure that employees are not exposed to Respirable Crystalline Silica above the action level at any time.

Description of Tasks that Involve Exposure to Respirable Crystalline Silica ([silica-07](#))

Job site tasks must be evaluated for Respirable Crystalline Silica exposures using the form below and OSHA Table 1 (18 tasks) of the 1926.1153 standard, or equivalent:

Task and Exposure Controls	Routine/Non-Routine	Number of Employees Involved	Crystalline Silica Present or in Use?	Duration
SWEEPING	ROUTINE		YES	<4HRS
MIXING CONST MATERIALS	ROUTINE		YES	<4HRS
BUFFING	ROUTINE		YES	<4HRS
HAND GRINDING	ROUTINE		YES	<4HRS

### Monitoring

Job sites must be monitored for Respirable Crystalline Silica exposures and a compliance program must be implemented in areas at or above the action limit of 25 µg /m<sup>3</sup> (0.025 mg/m<sup>3</sup>).

When not following Table-1 of the standard we will follow the Performance Option or Scheduled Monitoring Option which includes:

- Initial monitoring at job sites suspected to have Respirable Crystalline Silica exposures will be conducted to characterize employee exposure to Respirable Crystalline Silica in a worst case scenario. Representative samples are taken in the breathing zone over a full shift to obtain an 8-hour time-weighted average for each job that may have Respirable Crystalline Silica exposure.
- Where initial monitoring indicates employee exposures at or above the action level, but below the PEL periodic monitoring will be conducted every six (6) months or more often if conditions change such that further monitoring is appropriate. Where exposures are found to be above the PEL monitoring will be conducted at least every three (3) months.
- Additional monitoring will be conducted whenever there is a change in the process or control equipment that could impact employee Respirable Crystalline Silica exposure and after the clean up of any spill, leak or other failure to verify that the exposure levels have not changed from levels measured prior.
- Emergency plans are to be in place should a release, spill of Respirable Crystalline Silica occur which would be above the appropriate regulatory level and create additional hazards for employees in the spill, or release area.
- Maintenance procedures will be developed while any staff is working on ventilation systems that require changing of filters, cleaning, etc. and procedures communicated to the affected employees.
- Employees will be notified of all exposure monitoring results **within five (5) days** using the attached form “Employee Notification of Monitoring Results for Respirable Crystalline Silica”.

### Engineering and Work Practice Controls

- Whenever possible, we will prevent employee exposure to Respirable Crystalline Silica above the action level or to other hazardous chemicals by implementing engineering controls
- Engineering controls include but are not limited to; process improvements, containment improvements, etc.

- Where engineering controls are not feasible, work practice controls will be implemented to prevent Respirable Crystalline Silica exposure above the action level.

### Housekeeping

**For work sites where engineering and work practice controls are not feasible or sufficient the following program activities apply:**

### Respiratory Protection

- Respiratory protection will be used in accordance with the Respiratory Protection Program in compliance with OSHA 29 CFR 1910.134.
- Personal protective equipment including respiratory, eye and skin protection appropriate for the hazard will be supplied at no cost to the employee.

### Medical Surveillance

- We shall make medical surveillance available at no cost to the employee, and at a reasonable time and place, for each employee who will be occupationally exposed to respirable silica at or above the action level for 30 or more days per year.
- All medical services will be provided by licensed health care professionals (PLHCP) and accredited laboratories in a convenient location and at no cost to the employee.
- The respirable crystalline silica standard requires the following: A medical and work history, with emphasis on: past, present, and anticipated exposure to respirable crystalline silica, dust, and other agents affecting the respiratory system; any history of respiratory system dysfunction, including signs and symptoms of respiratory disease (e.g. shortness of breath, cough, wheezing); history of TB; and smoking status and history.
- We shall ensure that the PLHCP explains to the employee the results of the medical examination and provides each employee with a written medical report within 30 days of each medical examination performed.

The written report for the employee shall contain:

- (i) A statement indicating the results of the medical examination, including any medical condition(s) that would place the employee at increased risk of material impairment to health from exposure to respirable crystalline silica and any medical conditions that require further evaluation or treatment;
- (ii) Any recommended limitations on the employee's use of respirators;
- (iii) Any recommended limitations on the employee's exposure to respirable crystalline silica; and
- (iv) A statement that the employee should be examined by a specialist (pursuant to paragraph (h)(7) of 29 CFR 1926.1153) if the chest X-ray provided in accordance with this section is

classified as 1/0 or higher by the B Reader, or if referral to a specialist is otherwise deemed appropriate by the PLHCP.

- We will supply the PLHCP with a copy of the OSHA regulation 29CFR 1926.1153 a job description for the exposed employee, exposure monitoring results, information about the required personal protective equipment, and any available previous medical information.
- The PLHCP will provide us with a written medical opinion within 30 days of the medical examination. The written opinion shall contain only the following:
  - The date of the examination;
  - A statement that the examination has met the requirements of 29 CFR 1926.1153;
  - and
  - Any recommended limitations on the employee's use of respirators.
- If the employee provides written authorization, the written opinion shall also contain either or both of the following:
  - Any recommended limitations on the employee's exposure to respirable crystalline silica;
  - A statement that the employee should be examined by a specialist (pursuant to paragraph (h)(7) of 29 CFR 1926.1153) if the chest X-ray provided in accordance with this section is classified as 1/0 or higher by the B Reader, or if referral to a specialist is otherwise deemed appropriate by the PLHCP.
- We shall ensure that each employee receives a copy of the written medical opinion described above and referenced in paragraph (h)(6)(i) and (ii) of 29 CFR 1926.1153 within 30 days of each medical examination performed.

#### Communication-Restricted Access

- All regulated areas will be labeled with signs as follows:

DANGER  
CRYSTALLINE SILICA  
CANCER HAZARD  
CAUSES DAMAGE TO LUNGS  
WEAR RESPIRATORY PROTECTION IN THIS AREA  
AUTHORIZED PERSONNEL ONLY

- Containers and pipes, systems containing Respirable Crystalline Silica will be labeled with signs as follows:

DANGER  
CONTAINS RESPIRABLE CRYSTALLINE SILICA  
CANCER HAZARD  
CAUSES DAMAGE TO LUNGS

- Safety Data Sheets/Material Safety Data Sheets (SDS/MSDS) for Respirable Crystalline Silica will be kept at locations where exposure to Respirable Crystalline Silica is a possibility.

- As applicable maintenance procedures will be developed while any staff is working on ventilation systems and changing of filters, and procedures communicated to the affected employees.

### Training

Employees must be provided with training prior to initial assignment and annually thereafter

- Our organization's annual Employee Right-to-Know training will include training on Respirable Crystalline Silica according to the Respirable Crystalline Silica training attachments including an explanation of OSHA standard 29 CFR 1926.1153. Information presented as a part of the Employee Right-to-Know training program:
  - Explanation of the OSHA standard 29 CFR 1926.1153
  - Explanation of Respirable Crystalline Silica exposure control plan
  - Explanation of Respirable Crystalline Silica exposures and hazards
  - Explanation of Respirable Crystalline Silica exposure health effects
  - Engineering and work practice controls
  - Identity of Competent Person
  - Medical surveillance
  - Communication
  - SDS/MSDS
  - Signs and labeling
  - Training requirements
  - Availability of records

Records of attendance, training content, and other related information will be documented and retained.

### Recordkeeping

- Exposure monitoring and medical surveillance records will be maintained by our organization using the forms found in the attachments of this program for 30 years.
- Exposure monitoring records are available for employee review and for the area director upon request.
- Medical surveillance records are available for the affected employee and for the area director upon request.

Appendix A [Personal Air Monitoring \(silica-09\)](#)

Appendix B [Employee Notification of Exposure Monitoring \(silica-03\)](#)