

**TOWN OF ROCKY HILL:**  
2021 Silica Exposure Control Plan

## Introduction:

The State of Connecticut, Department of Labor's Division of Occupational Safety and Health (Conn OSHA) offers voluntary, on-site consultation programs. Through these on-site consultations, OSHA representatives offer professional advice and assistance, consulting services, training and educational programs, and partner with employers to move their safety and health programs forward.

On March 10, 2020, Anne Bracker, Occupational Hygienist, MPH, CIH, conducted an industrial hygiene consultation visit to provide information about respirable crystalline silica. This Compliance Plan is based on information and materials provided during this consultation process.

## Purpose:

The purpose of this plan is to reduce **Town of Rocky Hill (Town)** employees' exposure to respirable crystalline silica by 1) identifying tasks that employees perform that could expose them to respirable crystalline silica dust and, 2) determining methods to reduce those exposures.

Crystalline silica is a common mineral found in many naturally occurring and man-made materials such as sand, concrete, brick, block, stone, and mortar. Exposures to respirable crystalline silica can occur when operations such as cutting, sawing, grinding, drilling, milling and crushing are conducted on materials that contain crystalline silica.

## Scope and Application:

The Respirable Crystalline Silica Standard for Construction, 29 CFR 1926.1153, applies to all occupational exposures to respirable crystalline silica in construction work, except where employee exposure will remain below 25 micrograms per cubic meter of air ( $25 \mu\text{g}/\text{m}^3$ ) as an 8-hour time-weighted average (TWA) under any foreseeable conditions. This exposure control plan applies to all employees who are covered under the standard.

## Assignment of Responsibilities:

**The Town has designated a Competent Person (identified below) to perform the following activities:**

1. Identify tasks that employees perform that could expose them to respirable crystalline silica at levels above  $25 \mu\text{g}/\text{m}^3$  as an 8-hour TWA under any foreseeable conditions.
2. Determine the control measures that will be used to reduce exposures to respirable crystalline silica (either the Specified Exposure Control Methods of Table I or alternate control methods).

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3. Provide employees with the equipment, tools, engineering controls, personal protective equipment and training needed to fully and properly implement the exposure control methods.
4. Designate a competent person to implement the silica exposure control plan.
5. Conduct exposure assessments for tasks where alternative control methods are used.
6. Offer medical exams to employees who will be required to wear a respirator under the standard for 30 or more days a year.
7. Ensure employees are provided with training on respirable crystalline silica in accordance with the Respirable Crystalline Silica Standard and the Hazard Communication Standard.
8. Maintain records of exposure assessments and medical examinations in accordance with OSHA's Access to Employee Exposure and Medical Records Standard, 29 CFR 1910.1020.
9. Review and evaluate the effectiveness of the written exposure control plan at least once a year and update it as necessary.

### ***Competent Person:***

Relative to this Silica Exposure Control Plan, the Competent Person for the Town is the **Field Operations and Highway Superintendent for the Public Works Department (Joseph Lentini)**. The competent person is responsible for administering the exposure control plan.

Duties of the competent person include:

1. Make frequent and regular inspections of job sites, materials, and equipment to implement the written exposure control plan.
2. Identify existing and foreseeable respirable crystalline silica hazards at the worksite and take prompt corrective measures to eliminate or minimize them.

### ***Employees:***

Duties of employees include:

1. Follow the specified control measures when performing tasks covered under this plan.
2. Use dust controls in accordance with manufacturer instructions.
3. Use required personal protective equipment, as indicated.
4. Inform supervisor or competent person of deficiencies noted in the engineering controls, tasks which are not adequately addressed in this plan, or any other concerns regarding this plan.

### Specified Exposure Control Methods:

Table I of OSHA’s Respirable Crystalline Standard matches 18 common construction tasks with effective dust control methods, such as using equipment with an integrated water delivery system or using equipment with a vacuum dust collection system for capturing dust. For some tasks, the use of respirators is also required.

The **Public Works Department for the Town** will fully and properly implement the engineering controls, work practices, and respiratory protection specified in Table 1 for each Table I task performed. To be effectively implemented, the specified controls will be maintained in accordance with manufacturer specifications.

The **Public Works Department for the Town** is not required to conduct exposure assessments or separately ensure compliance with the Permissible Exposure Limit (PEL) for these tasks provided all specified controls are implemented and functioning properly. OSHA has reviewed the control measures specified in Table 1 and found that they are effective at limiting employee exposures to acceptable limits most of the time. For the few tasks where existing control measures cannot limit employee exposures to acceptable limits, Table 1 requires the use of respiratory protection.

**The Table I tasks that Town Public Works Department employees perform, and the control measures used for those tasks, are included in Appendix I.**

### Alternative Exposure Control Methods & Exposure Assessments:

For tasks that are not listed in Table I, or where the engineering controls, work practices, and respiratory protection described in Table I are not fully and properly implemented, **Town Public Works Department** will conduct exposure assessments and ensure compliance with the Permissible Exposure Limit (PEL) of  $50 \mu\text{g}/\text{m}^3$ , calculated as an 8-hour time-weighted average (TWA).

Engineering and work practice controls will be used to reduce and maintain employee exposure to respirable crystalline silica to or below the PEL. Where feasible controls are not sufficient to reduce employee exposure to or below the PEL, the **Town Public Works Department** will use those controls to reduce exposures to the lowest feasible level, and supplement the controls with the use of respiratory protection.

The **Town Public Works Department** will assess the exposure of each employee who is or may reasonably be expected to be exposed to respirable crystalline silica at or above the action level of  $25 \mu\text{g}/\text{m}^3$  using either the “performance option” or the “scheduled monitoring option.”

**Performance Option:** The **Town Public Works Department** will assess the 8-hour TWA exposure for each employee on the basis of a combination of air monitoring data or objective data that can accurately characterize employee exposures to respirable crystalline silica. Where objective or historic data shows that employees will not be exposed above limits for the task being performed, exposure monitoring is not required.

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**Scheduled Monitoring Option:** The **Town Public Works Department** will perform initial monitoring to assess the 8-hour TWA exposure for each employee on the basis of one or more personal breathing zone air samples that reflect the exposures of employees on each shift, for each job classification, in each work area. Representative sampling will be conducted.

- If the initial monitoring indicates that employee exposures are below the action level, no further monitoring will be conducted.
- If the most recent exposure monitoring reveals employee exposures at or above the action level but at or below the PEL, the **Town Public Works Department** will repeat monitoring within six months of the most recent monitoring.
- If the most recent exposure monitoring reveals employee exposures above the PEL, the **Town Public Works Department** will repeat monitoring within three months of the most recent monitoring.

Periodic exposure monitoring will be discontinued if two non-initial monitoring results taken consecutively, at least 7 days apart but within 6 months of each other, are below the action level.

The **Town Public Works Department** will reassess exposures whenever a change in the production, process, control equipment, personnel, or work practices may reasonably be expected to result in new or additional exposures at or above the action level.

The tasks that the **Town Public Works Department** employees perform that are not represented in Table I or are not conducted using the specified exposure control methods listed in Table I are included in Appendix II. The monitoring and/or objective data used for exposure assessments are included in Appendix III.

### **Employee Notification:**

Within five working days after completing an exposure assessment, the **Town Public Works Department** will individually notify each affected employee in writing of the results of that assessment or post the results in an appropriate location accessible to all affected employees. Whenever an exposure assessment indicates that employee exposure is above the PEL, the **Town Public Works Department** describe in the written notification the corrective action being taken to reduce employee exposure to or below the PEL.

### **Respiratory Protection:**

Respiratory protection will be provided to employees engaged in a Table 1 task requiring the use of respiratory protection.

Respiratory protection will also be provided to employees engaged in tasks that are not listed in Table 1 where employee exposures exceed the PEL, and engineering and work practice controls have not yet been implemented, are not feasible, or are not sufficient enough to reduce exposures to below the PEL.

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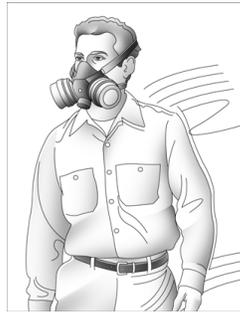
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If respiratory protection is required by your employer, the **Town Public Works Department** will provide each employee an appropriate respirator that complies with the requirements of the OSHA Respirable Crystalline Silica Standard and the Respiratory Protection Standard.

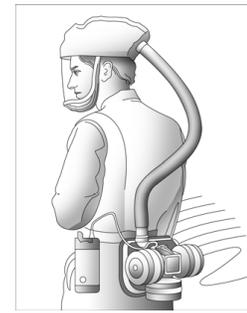
For Table I tasks requiring an Assigned Protection Factor (APF) of 10 or 25, the following types of respirators may be used:



**Half mask Filtering Facepiece  
Powered  
Dust Mask  
Respirator  
APF=10**



**Half mask Elastomeric Respirator Loose-Fitting  
APF=10**



**Air-Purifying  
(PAPR)  
APF=25**

Respiratory protection will be used in accordance with the OSHA Respiratory Protection Standard, 29 CFR 1910.134. If a respirator is required to be worn by an employee, the employee will be medically cleared, trained and fit-tested on the respirator *prior* to assigned use.

### **Housekeeping:**

Cleaning methods such as dry sweeping, dry brushing, and use of compressed air can cause respirable crystalline silica dust on surfaces to be re-entrained into the air and inhaled by employees.

Therefore, dry brushing or dry sweeping will not be allowed when cleaning up dust that could contribute to employee exposure to respirable crystalline silica, unless methods such as wet sweeping and HEPA-filtered vacuuming are not feasible.

Cleaning of surfaces or clothing with compressed air will not be allowed unless the compressed air is used together with a ventilation system that effectively captures the dust cloud or no other cleaning method is feasible.

Cleaning methods which prevent unnecessary exposures to employees such as wet sweeping and HEPA- filtered vacuuming will be used. A commercially-available dust-suppression sweeping compound may also be used in accordance with the manufacturer's instructions.

### Medical Surveillance:

Medical surveillance will be made available at no cost, and at a reasonable time and place, to any employee who is required by the Respirable Crystalline Silica Standard to use a respirator for 30 or more days per year.

An initial examination will be offered within 30 days of initial assignment, unless the employee has had an examination that meets the requirements of the silica standard within the last three years. The examination will include a medical and work history, a physical examination, a chest x-ray, a pulmonary function test, a test for latent tuberculosis infection (initial exam only), and any other tests deemed appropriate by the physician or other licensed health care professional (PLHCP). Thereafter, the employee will be offered a follow-up examination at least every three years, or more frequently if recommended by the PLHCP. Medical examinations will be provided by *Medworks, LLC, located at 375 East Cedar Street, Newington, CT 06111, telephone 860-667-4418.*

### Hazard Communication:

Respirable Crystalline Silica will be included in the **Town's** Hazard Communication Program. The **Town** will ensure that 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 hazard communication standard. The following hazards will be addressed: cancer, lung effects, immune system effects, and kidney effects.

### Training:

The **Field Operations and Highway Superintendent for the Town Public Works Department** will conduct training on respirable crystalline silica and on the contents of the Silica Exposure Control Plan. Training will be provided to each employee covered by the standard and will cover at least the following:

- The health hazards associated with exposure to respirable crystalline silica;
- Specific tasks in the workplace that could result in exposure to respirable crystalline silica;
- Specific measures that the **Town Public Works Department** has implemented to protect employees from exposure to respirable crystalline silica, including engineering controls, work practices, and respirators to be used;
- The contents of the Respirable Crystalline Silica Standard for Construction;
- The identity of the competent person designated by the **Town**;
- The purpose and description of the medical surveillance program.

The **Field Operations and Highway Superintendent** will conduct training using a combination of hands-on training, videos/"PowerPoint"/slide presentations, classroom instruction, informal discussions during safety meetings (also called: "Tailgate" meetings, and written materials. From time to time, other instructors or outside trainers may also be utilized to provide this training. The **Town Public Works Department** will determine whether employees have the requisite knowledge through a combination of methods such as discussion of the required training subjects, written tests, or oral quizzes. Additional training will be provided as necessary. The **Town** will make a copy of the OSHA Respirable Crystalline Silica Standard available at no cost to each

employee covered by the standard.

### **Recordkeeping:**

The **Town Public Works Department** will maintain records of air monitoring data, objective data, and medical surveillance data required under the standard. Required records will be maintained and made available in accordance with 29 CFR 1910.1020.

### **Program Review:**

The **Field Operations and Highway Superintendent, Director of Community Development and Public Works, and Director of Human Resources & Legal Compliance** will review and evaluate the effectiveness of the written silica exposure control plan at least annually, and update it as necessary.

### **APPENDICES:**

- **Appendix I: Tasks with Specified Exposure Control Methods**
- **Appendix II: Tasks with Alternative Exposure Control Methods**
- **Appendix III: Air Monitoring/Objective Data for Tasks with Alternative Control Methods**

## **Appendix I: Tasks with Specified Exposure Control Methods**

*(Include in this section Table I tasks for which the engineering controls, work practices, and respiratory protection specified in Table 1 are fully & properly implemented.)*

**Written Exposure Control Plan Worksheet**

**Stationary Masonry Saws (Table 1 Task (i))**

**Municipality:**

Town of Rocky Hill

**Person Completing the Plan, Title:**

Joseph Lentini, Field Operations and Highway Superintendent

**Date:**

June 24, 2020

**Description of Task:**

Stationary Masonry Saws are used to cut block, brick, and tiles.

**Control Description:**

The saws are equipped with an integrated water delivery system that continuously feeds water to the blade.

**Work Practices:**

This task is performed outdoors for less than 10 minutes-at-a-time. This equipment is operated and maintained in accordance with the manufacturer's instructions to minimize dust emissions. Employees have access to proper PPE (face masks), and have been provided with a copy of **Appendix D**.

**Respiratory Protection:**

In addition to face masks, each employee has access to, and the option of wearing other personal protective equipment (PPE), including N95 masks, eye protection, and additional shielding from dust and debris through gloves and hard-hats.

**Housekeeping:**

Dust that contains silica, which may be found on work surfaces and equipment, is cleaned with wet method or cleaned with a HEPA filtered vacuum. Forced air is not used to remove silica debris or dust. Used filters and bags are disposed of in a manner that keeps contents sealed inside of collection device.

**Procedures Use to Restrict Access to Work Areas:**

All work is performed outdoors, and the job task is performed away from general/common work areas and the work location is coned-off or marked by "caution tape" to limit access to the work area.

**Written Exposure Control Plan Worksheet**

**Handheld Power Saws, Any Blade Diameter (Table 1 Task (ii))**

**Municipality:**

Town of Rocky Hill

**Person Completing the Plan, Title:**

Joseph Lentini, Field Operations and Highway Superintendent

**Date:**

June 24, 2020

**Description of Task:**

Handheld Power Saws are used to cut cinder block, brick and tiles.

**Control Description:**

The saws are equipped with integrated water delivery system that continuously feeds water to the blades.

**Work Practices:**

This task is performed outdoors for less than 10 minutes-at-a-time. This equipment is operated and maintained in accordance with the manufacturer's instructions to minimize dust emissions. Employees have access to proper PPE (face masks), and have been provided with a copy of **Appendix D**.

**Respiratory Protection:**

In addition to face masks, each employee has access to, and the option of wearing other personal protective equipment (PPE), including N95 masks, eye protection, and additional shielding from dust and debris through gloves and hard-hats.

**Housekeeping:**

Dust that contains silica, which may be found on work surfaces and equipment, is cleaned with wet method or cleaned with a HEPA filtered vacuum. Forced air is not used to remove silica debris or dust. Used filters and bags are disposed of in a manner that keeps contents sealed inside of collection device.

**Procedures Use to Restrict Access to Work Areas:**

All work is performed outdoors, and the job task is performed away from general/common work areas and the work location is coned-off or marked by "caution tape" to limit access to the work area.

**Written Exposure Control Plan Worksheet**

**Walk-Behind Saws (Table 1 Task (iv))**

**Municipality:**

Town of Rocky Hill

**Person Completing the Plan, Title:**

Joseph Lentini, Field Operations and Highway Superintendent

**Date:**

June 24, 2020

**Description of Task:**

Walk-behind saws are used to cut asphalt.

**Control Description:**

The Walk-Behind Saws are equipped with integrated water delivery system that continuously feeds water to the blades.

**Work Practices:**

This task is performed outdoors for less than 10 minutes-at-a-time. This equipment is operated and maintained in accordance with the manufacturer's instructions to minimize dust emissions. Employees have access to proper PPE (face masks), and have been provided with a copy of **Appendix D**.

**Respiratory Protection:**

In addition to face masks, each employee has access to, and the option of wearing other personal protective equipment (PPE), including N95 masks, eye protection, and additional shielding from dust and debris through gloves and hard-hats.

**Housekeeping:**

Dust that contains silica, which may be found on work surfaces and equipment, is cleaned with wet method or cleaned with a HEPA filtered vacuum. Forced air is not used to remove silica debris or dust. Used filters and bags are disposed of in a manner that keeps contents sealed inside of collection device.

**Procedures Use to Restrict Access to Work Areas:**

All work is performed outdoors, and the job task is performed away from general/common work areas and the work location is coned-off or marked by "caution tape" to limit access to the work area.

**Written Exposure Control Plan Worksheet**

**Jackhammers and Handheld Power Chipping Tools (Table 1 Task (x))**

**Municipality:**

Town of Rocky Hill

**Person Completing the Plan, Title:**

Joseph Lentini, Field Operations and Highway Superintendent

**Date:**

June 24, 2020

**Description of Task:**

Jackhammers and Handheld Power Chipping Tools are used to chip concrete to remove concrete spurs and jackhammering is used for demolition work—usually used to level off small areas.

**Control Description:**

Associated tasks are performed in less than 1-hour increments. Portable water source with hose, in addition to masonry brush, area used to wet work surface. This equipment is operated and maintained in accordance with the manufacturer’s instructions to minimize dust emissions.

**Work Practices:**

This task is performed in less than 1-hour increments. A portable water source is used with this job task, and is applied to work surfaces with water (a hose) and/or masonry brush to wet area down. Equipment is operated and maintained in accordance with the manufacturer’s instructions to minimize dust emissions. Employees have access to proper PPE (face masks), and have been provided with a copy of **Appendix D**.

**Respiratory Protection:**

In addition to face masks, each employee has access to, and the option of wearing other personal protective equipment (PPE), including N95 masks, eye protection, and additional shielding from dust and debris through gloves and hard-hats.

**Housekeeping:**

Dust that contains silica, which may be found on work surfaces and equipment, is cleaned with wet method or cleaned with an attached, filtered vacuum. Forced air is not used to remove silica debris or dust. Used filters and bags are disposed of in a manner that keeps contents sealed inside of collection device.

**Procedures Use to Restrict Access to Work Areas:**

All work is performed outdoors, and the job task is performed away from general/common work areas and the work location is coned-off or marked by “caution tape” to limit access to the work area.

**Written Exposure Control Plan Worksheet**

**Small Drivable Milling Machine (Less Than ½ Lane) (Table 1 Task (xiv))**

**Municipality:**

Town of Rocky Hill

**Person Completing the Plan, Title:**

Joseph Lentini, Field Operations and Highway Superintendent

**Date:**

June 24, 2020

**Description of Task:**

A 2-Foot milling machine, attached to a Bobcat, is used to grind asphalt.

**Control Description:**

The fully-enclosed cab is air-conditioned, and includes a HEPA filter; and asphalt is continuously watered down.

**Dust Controls:**

This equipment is operated and maintained in accordance with the manufacturer's instructions to minimize dust emissions.

**Work Practices:**

Equipment is operated and maintained in accordance with the manufacturer's instructions to minimize dust emissions. Employees have access to proper PPE (face masks), and have been provided with a copy of **Appendix D**.

**Respiratory Protection:**

In addition to face masks, each employee has access to, and the option of wearing other personal protective equipment (PPE), including N95 masks, eye protection, and additional shielding from dust and debris through gloves and hard-hats.

**Housekeeping:**

Area is wet down to saturate debris and sweeper (equipped with water delivery system) is used to collect same.

**Procedures Use to Restrict Access to Work Areas:**

All work is performed outdoors, and the job task is performed away from general/common work areas and the work location is coned-off or marked by "caution tape" to limit access to the work area.

## **Appendix II: Tasks with Alternative Exposure Control Methods**

*(Include in this section tasks that are not listed in Table I, or where the engineering controls, work practices, and respiratory protection described in Table I are not fully and properly implemented. Examples include drywall sanding, mortar mixing using silo dispenser, site clean-up)*

**Written Exposure Control Plan Worksheet**

**Handheld Grinders for Mortar Removal (example: “Tuckpointing”)**

**Municipality:**

Town of Rocky Hill

**Person Completing the Plan, Title:**

Joseph Lentini, Field Operations and Highway Superintendent

**Date:**

June 24, 2020

**Description of Task:**

Handheld Grinders for Mortar Removal are used when repairing catch basins

**Control Description:**

**Job task is performed in less-than-10- minute increments.** Chipping hammer has vacuum attachment. There is also a portable water source with hose, in addition to masonry brush, used to wet work surface continuously. *Following discussion with Connecticut OSHA, because of the “less-than-10 minute” time limit for this job task, which must never be exceeded, we have concluded that the job task falls outside the scope of the OSHA standard.*

**Work Practices:**

Job task **must be performed in less-than-10-minute shifts.** Portable water source is used with this job task, and consistently applied to work surface with water (hose) and/or masonry brush to wet area down. Equipment is operated and maintained in accordance with the manufacturer’s instructions to minimize dust emissions. Employees have access to proper PPE (face masks), and have been provided with a copy of **Appendix D**.

**Respiratory Protection:**

While task does not require N95 mask protection, each employee has access to, and the option of wearing, personal protective equipment (PPE), including N95 masks; and additionally, employees are provided with eye protection, and additional shielding from dust and debris through gloves and hard-hats.

**Housekeeping:**

Dust that contains silica, which may be found on work surfaces and equipment, is cleaned with wet method or cleaned with a HEPA filtered vacuum.

**Procedures Use to Restrict Access to Work Areas:**

All work is performed outdoors, and the job task is performed away from general/common work areas and the work location is coned-off or marked by “caution tape” to limit access to the work area.

### **Appendix III: Air Monitoring/Objective Data for Tasks with Alternative Control Methods**

*(Include in this section information used to conduct exposure assessments such as air monitoring data from industry-wide surveys, equipment manufacturers or trade associations; calculations based on the composition of a substance; area sampling results/ exposure mapping profile approaches; historical air monitoring data)*

**NOT APPLICABLE**