

Palm Beach State College

Florida's First Public Community College



SILICA EXPOSURE CONTROL PLAN

2018

Purpose

The purpose of this document is to establish and implement a written exposure control plan that identifies tasks involving silica exposure and methods used to protect employees. All Palm Beach State College units are required to implement the components of the Plan to ensure compliance with the following applicable state and federal regulations.

The following Occupational Safety and Health Administration (OSHA) standards are applicable for respirable crystalline silica:

- General Standard 29 CFR 1910.1053.
- Construction Standard 29 CFR 1926.1153.

Scope

The Silica Exposure Control Plan applies to all Palm Beach State College employees who are expected to be exposed to respirable crystalline silica as outlined in section 4; or through other means, which are determined by Safety and Risk Management (SRM) and/or their supervisor.

Responsibilities

Deans, Directors and Department Heads:

- Ensure supervisor(s) understand their responsibilities for the preparation and implementation of the Silica Exposure Control Plan within each work unit.
- Actively support this Plan within individual units.
- Ensure an environment where all employees are required to follow this Plan.
- Designate a competent person to oversee all work areas where exposure to crystalline silica is possible and to ensure this plan is implemented. See section on competent person.

Supervisors

- Implement and ensure procedures are followed in accordance with this Plan.
- Ensure that staff is aware of this Plan, instructed on the details of implementation, and provided with equipment, and methods of control (e.g. engineering controls, work practice controls and respirators).
- Ensure that their employees receive training on silica.
- Contact SRM to request technical assistance, and to evaluate health and safety concerns within their department.

Employees

- Comply with this Plan and any further safety recommendations provided by supervisors and/or SRM regarding the Silica Exposure Control Plan.
- Contact supervisor or SRM to request technical assistance, and to evaluate health and safety concerns within their department.

Safety and Risk Management (SRM)

- Provide technical assistance on silica and silica exposures.
- Review and evaluate the Silica Exposure Control Plan annually and provide updates as necessary.
- Develop and provide training on silica and the exposure control plan.

Specified Exposure Control Methods

For each employee working with materials containing crystalline silica and engaged in a task using the equipment and machines listed below, the employer shall fully and properly implement the engineering controls, work practices, and respiratory protection specified:

(Note: if an employee performs more than more than one task listed below 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.)

Stationary Masonry Saws

- Engineering Control:** Water continuously fed to the blade.
- Respiratory Protection:** None Required.

Drivable Saws

- Engineering Control:** Water continuously fed to the blade.
- Respiratory Protection:**
 - o Enclosed Area: Cannot Use Saw in Enclosed Areas.
 - o Outside Area: None Required.

Handheld Power Saws

- Engineering Control:** Water continuously fed to the blade.
- Respiratory Protection (less than 4 hours per shift):**
 - o Enclosed Area: Half Mask.
 - o Outside Area: None Required.
- Respiratory Protection (more than 4 hours per shift):**
 - o Enclosed Area: Half Mask.
 - o Outside Area: Half Mask.

Walk Behind Saws

- Engineering Control:** Water continuously fed to the blade.
- Respiratory Protection (less than 4 hours per shift):**
 - o Enclosed Area: Half Mask.
 - o Outside Area: None Required.
- Respiratory Protection (more than 4 hours per shift):**
 - o Enclosed Area: Half Mask.
 - o Outside Area: None Required.

Ring Mounted Core Saw or Drill

- Engineering Control:** Water continuously fed to the cutting surface.
- Respiratory Protection:** None Required.

Handheld and Stand-Mounted Drills

- Engineering Control:** Commercial shroud or cowling with dust collection system.
- Respiratory Protection:** None Required.

Dow Drilling Rigs for Concrete

- Engineering Control:** Commercial shroud or cowling with dust collection system.
- Respiratory Protection (less than 4 hours per shift):**
 - o Enclosed Area: Cannot Use Drill in Enclosed Areas.
 - o Outside Area: Half Mask.
- Respiratory Protection (more than 4 hours per shift):**
 - o Enclosed Area: Cannot Use Drill in Enclosed Areas.
 - o Outside Area: Half Mask.

Vehicle-Mounted Drilling Rigs

- Engineering Control:** 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. – OR – Operate from within an enclosed cab and use water for dust suppression on drill bit.
- Respiratory Protection:** None Required.

Jackhammers and Handheld Power Chipping Tools

- Engineering Control:** Water continuously fed to the point of impact – OR – Commercial shroud or cowling with dust collection system.
- Respiratory Protection (less than 4 hours per shift):**
 - o Enclosed Area: Half Mask.
 - o Outside Area: None Required.
- Respiratory Protection (more than 4 hours per shift):**
 - o Enclosed Area: Half Mask.
 - o Outside Area: Half Mask.

Walk-Behind Milling Machines and Floor Grinders

- **Engineering Control:** Water continuously fed to the point of impact – OR – Commercial shroud or cowling with dust collection system.
- **Respiratory Protection:** None Required.

Small Drivable Milling Machines (Less than Half-Lane).

□ **Engineering Control:** Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant.

- **Respiratory Protection:** None Required.

Large Drivable Milling Machines (Half-Lane and Larger).

□ **Engineering Control:** Use a machine equipped with exhaust ventilation on drum enclosure and supplemental water spray designed to suppress dust. – OR – Use a machine equipped with supplemental water spray designed to suppress dust. Water must be combined with a surfactant.

Respiratory Protection: None Required.

Crushing Machines.

□ **Engineering Control:** Use equipment designed to deliver water spray or mist at crusher and other points where dust is generated. – AND – Use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote control station.

- **Respiratory Protection:** None Required.

Heavy Equipment (Hoe-Ramming, Rock Ripping, and Demolition).

□ **Engineering Control:** Operate equipment from within an enclosed cab. – AND – When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions.

- **Respiratory Protection:** None Required.

Heavy Equipment (Grading and Excavating).

□ **Engineering Control:** Apply water and/or dust suppressants as necessary to minimized dust emissions. – OR – When the equipment

operator is the only employee engaged in the task, operate equipment from within an enclosed cab.

- Respiratory Protection:** None Required.

Handheld Grinders for Mortar Removal.

- Engineering Control:** Commercial shroud or cowling with dust collection system.

- Respiratory Protection (less than 4 hours per shift):**

- o Enclosed Area: Half Mask.

- o Outside Area: Half Mask.

- Respiratory Protection (more than 4 hours per shift):**

- o Enclosed Area: Full Face Mask.

- o Outside Area: Full Face Mask.

Handheld Grinders for Uses Other than Mortar Removal.

- Engineering Control:** Water continuously fed to the grinding surface – OR – Commercial shroud or cowling with dust collection system.

- Respiratory Protection (less than 4 hours per shift):**

- o Enclosed Area: None Required.

- o Outside Area: None Required.

- Respiratory Protection (more than 4 hours per shift):**

- o Enclosed Area: Half Mask.

- o Outside Area: None Required.

Bulk Mixing of Materials Containing Crystalline Silica (e.g., Concrete, cement, grout).

- Engineering Control:** Water added to form mixture.

- Respiratory Protection:** Half Mask while adding bulk, dry materials.

Any questions about appropriate engineering, work practice or respiratory protection should be directed to Safety and Risk Management.

Housekeeping

- Dry sweeping or dry brushing are not allowed where such activity could contribute to employee exposure to respirable crystalline silica.
 - o Use Wet Sweeping.
 - o Use HEPA-Filtered Vacuuming.

- Compressed air shall not be used to clean clothing or surfaces where such activity could contribute to employee exposure to respirable crystalline silica.

If you are exposed to respirable crystalline silica and engaged in a task using equipment and machines not identified in the list above, contact SRM for an exposure assessment to determine the engineering controls, work practices, and respiratory protection requirements to safely do your job.

Competent Person

Each campus shall select, in consultation with Safety and Risk Management, a competent person to make frequent and regular inspections of job sites, materials, and equipment to implement this written exposure control plan.

The competent person is defined as: 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 this exposure control plan. See section for Deans, Directors and Department Heads, under Responsibilities.

Work Area Access Restriction

Each work area where work with crystalline silica is being conducted shall have access restricted to minimize to minimize the number of employees exposed to respirable crystalline silica and their level of exposure, including exposures generated by other employers or contractors.

Contractors

Contractors working with crystalline silica on any Palm Beach State College campus or facility, shall as a minimum comply with this plan or their own plan if it is at least as restrictive as this plan. They must designate which they are

following. If they use their own plan, it must be submitted to the College at least 2 weeks prior to commencement of work.

Review and Update

This plan shall be reviewed at least annually and updated as needed to ensure its effectiveness.