

University of Alaska Anchorage	Section EHS/RM
ADMINISTRATIVE SERVICES MANUAL	Program No.
EHS/RM Programs	Page 1
Title <i>Respirable Crystalline Silica</i>	Effective Date 05/27/2021

1. Purpose

University of Alaska Anchorage (UAA) employees, student workers, faculty, staff, and outside contractors who have potential for an occupational exposure to respirable crystalline silica in the course of their work functions, risk serious health effects. The hazards associated with crystalline silica can be substantially reduced by using the equipment properly and taking precautions. This program for Crystalline Silica is intended to ensure workers are knowledgeable in the hazards of crystalline silica and the steps to be taken to protect themselves and others.

2. Objective

UAA, in its continuing effort to provide employees with safe, healthful working conditions, and to comply with the Occupational Safety and Health Act is implementing the following program for crystalline silica to protect people working at the University, by helping employees, student workers, faculty, staff, and outside contractors better understand crystallin silica health hazards.

3. Scope

This policy applies to UAA employees, student employees, faculty, staff, and outside contractors working on UAA equipment who work with or are around crystallin silica.

4. Definitions

Assigned Protection Factor (APF) - is the workplace level of respiratory protection that a respirator is expected to provide to employees OSHA assigned protection factors can be found in Appendix A

Time Weighted Average (TWA) - an average exposure over a specified period, usually a nominal eight hours

Competent Person - 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 implement the written exposure control plan required under the standard

Dust Collection System - is use of a shroud or cowling around the tool bit or cutting zone that works with a vacuum to collect silica dust as it is produced during cutting operations

Permissible Exposure Limit (PEL) - is a legal limit in the US for exposure of an employee to a chemical substance or physical agent

Physician or other Licensed Health Care Professional (PLHCP) - is an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to

University of Alaska Anchorage	Section EHS/RM
ADMINISTRATIVE SERVICES MANUAL	Program No.
EHS/RM Programs	Page 2
Title <i>Respirable Crystalline Silica</i>	Effective Date 05/27/2021

independently provide or be delegated the responsibility to provide some or all of the particular healthcare services required by this standard

Personal Protective Equipment (PPE) - refers to protective clothing, helmets, goggles, or other garments or equipment designed to protect the wearer's body from injury or infection. The hazards addressed by protective equipment include physical, electrical, heat, chemicals, biohazards, and airborne particulate matter

Silica - a hard, unreactive, colorless compound that occurs as the mineral quartz and as a principal constituent of sandstone and other rocks

Silicosis - lung fibrosis cause by the inhalation of dust containing silica

5. Authority and Responsibilities

In addition to the roles and responsibilities outlined in the UAA Training Program, the following apply to the Silica Safety Program.

EHS/RM

- Provide program oversight and consultation to UAA employees regarding potential risks, exposure prevention, and training relating to potential crystalline silica exposures
- Provide support to departments to ensure that all affected employees and their managers or supervisors receive the necessary training related to this plan
- Create, track, and/or conduct inspections on crystallin silica where applicable
- Conduct a review of this plan annually and update it as necessary

Supervisor

- Determine if there is a possibility of silica exposure in their department and if necessary work with EHS/RM to implement the Crystalline Silica Program
- Identify employees who are at risk for silica exposure
- Act as or designate a competent person for the department
- Ensure appropriate tools and personal protective equipment (PPE) are available to affected employees
- Require affected employees to wear PPE as outlined in the plan
- Ensure employees are properly trained in this program and the use of tools and equipment in their work areas

University of Alaska Anchorage	Section EHS/RM
ADMINISTRATIVE SERVICES MANUAL	Program No.
EHS/RM Programs	Page 3
Title <i>Respirable Crystalline Silica</i>	Effective Date 05/27/2021

Department Safety Coordinator

- Assist in the identification of crystalline silica exposure in the department
- Conduct periodic inspections of work involving crystalline silica exposure in their department to ensure integrity
- Assist in the determination of safe methods to work with crystalline silica when work methods are determined to be at risk due to required work tasks

Employees/Student Workers

- Observe the procedures and requirements outlined in this plan
- Attend training sessions
- Comply with medical surveillance requirements
- Wear respiratory protection and other PPE, as required
- Notify supervisors of changes in the workplace that could cause an increase in exposures to respirable crystalline silica.

Outside Contractors

- Perform all work in compliance with their company’s crystallin silica program, which will be reviewed and approved by the EHS/RM department
- If the company does not have a program, they must comply with this program

6. Hazards Associated with 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.

7. Engineering Controls

Engineering controls are design plans or changes to the working environment to prevent or reduce employee exposure to potential fall hazards. The following example of engineering controls should be considered in area design to reduce the risk of crystalline silica exposure.

- Adequate ventilation to reduce silica exposure

University of Alaska Anchorage	Section EHS/RM
ADMINISTRATIVE SERVICES MANUAL	Program No.
EHS/RM Programs	Page 4
Title <i>Respirable Crystalline Silica</i>	Effective Date 05/27/2021

- Proper tools and equipment that minimize crystalline silica exposure including systems that feed water to the blade or are equipped with HEPA vacuum systems to minimize dust
- Separate areas where activities that may produce crystalline silica dust to limit exposure to other personnel

8. Administrative Controls

Administrative controls are safe work practices and procedures designed to reduce the risks associated with working with crystalline silica. Examples of administrative controls include the following:

- Train employees who may be exposed to crystalline silica on proper procedures to minimize exposure, and provide general awareness training to other personnel so they are aware of the hazards
- Routine inspections of tools and equipment to ensure they are in safe working condition

9. Procedures

Exposure to respirable crystalline silica typically occur during common construction tasks, such as using masonry saws, grinders, drills, jackhammers and handheld powered chipping tools. UAA will follow the control methods laid out in OSHA’s Table 1 (Appendix B), or steps will be taken to measure the exposure to silica and develop a standard operating procedure (SOP) to implement controls to best limit exposures to UAA personnel.

OSHA 40 CFR 1926.1153 Table 1

When UAA personnel perform work where the equipment or task can be found in the first column of Table 1, the provided engineering and work practices, control methods, and PPE can be used. No further exposure assessments or testing need to be performed.

Note: UAA Personnel must adhere to the UAA Respiratory Protection program when using the prescribed PPE listed in Table 1.

Tasks Not Included on Table 1

When UAA Personnel are performing tasks, which are not included in Table 1, or the prescribed work practices are not followed the following must take place:

- UAA must ensure an exposure assessment takes place
 - UAA can perform initial monitoring to determine the 8-hour time weighted average (TWA) exposure for each employee

Or

University of Alaska Anchorage	Section EHS/RM
ADMINISTRATIVE SERVICES MANUAL	Program No.
EHS/RM Programs	Page 5
Title <i>Respirable Crystalline Silica</i>	Effective Date 05/27/2021

- UAA shall assess the 8-hour TWA exposure for each employee on the basis of any combination of air monitoring data or objective data sufficient to accurately characterize employee exposures to respirable crystalline silica
- All affected employees must be provided the results of the assessment, and the exposure control plan in writing.
- If exposure monitoring is performed, all affected personnel or a representative must have the opportunity to observe the monitoring if requested.
- Any time the exposure is determined to be above the PEL the Department Supervisor or designee will then write an exposure control plan or SOP for the task(s) to be performed. The SOP will include:
 - Description of the task being performed
 - Method to secure the area
 - Engineering controls and equipment that must be used
 - Prescribed PPE including respiratory protection
 - Any specific work practices that must be followed
 - Clean-up and housekeeping procedures

Housekeeping

When cleaning up silica dust one or more of the following methods must be implemented to prevent creating airborne Crystalline Silica Dust and spreading the material:

- HEPA vacuum cleaners
- Wet mopping
- Wet sweeping

Regulated Areas

Anywhere the exposure is above the PEL, a regulated area will be established. The regulated area must be separated from other areas in a way to minimize the number of employees exposed. At each entrance of a regulated area, the sign in Appendix B must be posted. Only employees who have work to perform in the area are allowed to enter the area. All employees entering the regulated area must wear the prescribed PPE including a respirator, regardless of the amount time spent in the area.

Medical Services

If it is determined any UAA personnel was exposed above the action level for 30 or more days

University of Alaska Anchorage	Section EHS/RM
ADMINISTRATIVE SERVICES MANUAL	Program No.
EHS/RM Programs	Page 6
Title <i>Respirable Crystalline Silica</i>	Effective Date 05/27/2021

per year will they will be provided medical surveillance at no cost. The medical surveillance is performed initially and at least every 3 years, unless more frequently recommended by a physician or other licensed health care professional (PLHCP). The medical examination will include medical and work history, a physical exam, chest x-ray, pulmonary function, tuberculosis test, and any other test recommended by the PLHCP. The department will provide the following information to the PLHCP: the employee’s duties as they relate to silica exposure, results of air sampling, and the PPE that is used. A written report on the results will be provided to the employee within 30 days.

10. Inspections

To ensure the effectiveness of the Crystalline Silica Program the following inspections are required:

Prior to every task where UAA personnel may be exposed to crystalline silica, supervisors and workers will review all SOP’s and, if necessary, the requirements of Table 1. Personnel must visually inspect their equipment and PPE to ensure they are in proper working condition.

Supervisors should observe work and make corrections to exposure control plan as necessary.

11. Training

UAA shall provide a training program for each employee performing tasks where there is a risk of crystalline silica exposure.

The program shall enable each employee to recognize hazards related to crystalline silica shall train each employee in the procedures to be followed to minimize these hazards.

The employer shall ensure that each employee has been trained by a competent person in the following areas, as applicable:

- 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 the employer has implemented to protect employees from exposure to respirable crystalline silica, including engineering controls, work practices, and respirators to be used
- The identity of the competent person to contact for questions
- The purpose and a description of the medical surveillance program

Retraining shall be provided for each employee as necessary if an incident occurs, new workplace hazards are identified, or there is a change in the tools or PPE used.

University of Alaska Anchorage	Section EHS/RM
ADMINISTRATIVE SERVICES MANUAL	Program No.
EHS/RM Programs	Page 7
Title <i>Respirable Crystalline Silica</i>	Effective Date 05/27/2021

12. Program Evaluation

The Crystalline Silica program shall be evaluated on an annual basis utilizing the protocols set forth by EHS/RM. The evaluation team will consist of a department safety coordinator and a designee from EHS/RM. EHS/RM will define the scope of the evaluation. The final report will be developed by the EHS/RM utilizing the information received during the evaluation. The deficiencies determined in the report will be documented and corrective action plans will be developed.

13. References

OSHA regulations that apply to Respirable Crystalline Silica safety are included below

- 29 CFR 1910.1053
- 29 CFR 1926.1153

14. Revision History

Revision Number	Date Revised	Description of Change	Revised By	Approved By
0		Initial Issue		
1				
2				
3				

University of Alaska Anchorage	Section EHS/RM
ADMINISTRATIVE SERVICES MANUAL	Program No.
EHS/RM Programs	Page 8
Title <i>Respirable Crystalline Silica</i>	Effective Date 05/27/2021

Appendix A OSHA Assigned Protection Factors

OSHA 1910.134(d)(3)(i)(A)

Assigned Protection Factors (APFs) Employers must use the assigned protection factors listed in Table 1 to select a respirator that meets or exceeds the required level of employee protection. When using a combination respirator (e.g., airline respirators with an air-purifying filter), employers must ensure that the assigned protection factor is appropriate to the mode of operation in which the respirator is being used.

Table 1. Assigned Protection Factors⁵

Type of respirator ^{1,2}	Quarter Mask	Half Mask	Full Facepiece	Helmet/Hood	Loose-fitting Facepiece
Air-Purifying Respirator (APR)	5	³ 10	50	-----	-----
Powered Air-Purifying Respirator (PAPR)		50	1,000	⁴ 25/1,000	25
Supplied-Air Respirator (SAR) or Airline Respirator					
<ul style="list-style-type: none"> • Demand mode 	-----	10	50	-----	-----
<ul style="list-style-type: none"> • Continuous flow mode 	-----	50	1,000	⁴ 25/1,000	25
<ul style="list-style-type: none"> • Pressure-demand or other positive-pressure mode 	-----	50	1,000	-----	-----
Self-Contained Breathing Apparatus (SCBA)					
Demand Mode	-----	10	50	50	-----
Pressure-demand or other positive-pressure mode (e.g., open/closed circuit)	-----	-----	10,000	10,000	-----

Notes:

¹Employers may select respirators assigned for use in higher workplace concentrations of a hazardous substance for use at lower concentrations of that substance, or when required respirator use is independent of concentration.

²The assigned protection factors in Table 1 are only effective when the employer implements a continuing, effective respirator program as required by this section (29 CFR 1910.134), including training, fit testing, maintenance, and use requirements.

³This APF category includes filtering facepieces, and half masks with elastomeric facepieces.

⁴The employer must have evidence provided by the respirator manufacturer that testing of these respirators demonstrates performance at a level of protection of 1,000 or greater to receive an APF of 1,000. This level of performance can best be demonstrated by performing a WPF or SWPF study or equivalent testing. Absent such testing, all other PAPRs and SARs with helmets/hoods are to be treated as loose-fitting facepiece respirators, and receive an APF of 25.

⁵These APFs do not apply to respirators used solely for escape. For escape respirators used in association with specific substances covered by 29 CFR 1910 subpart Z, employers must refer to the appropriate substance-specific standards in that subpart. Escape respirators for other IDLH atmospheres are specified by 29 CFR 1910.134 (d)(2)(ii).

University of Alaska Anchorage	Section EHS/RM
ADMINISTRATIVE SERVICES MANUAL	Program No.
EHS/RM Programs	Page 9
Title <i>Respirable Crystalline Silica</i>	Effective Date 05/27/2021

Major Types of Respirators

Air-Purifying respirators, which remove contaminants from the air.



Half mask/Dust mask
APF=10
Needs to be fit tested



Half mask (Elastomeric)
APF=10
Needs to be fit tested



Full facepiece (Elastomeric)
APF=50
Needs to be fit tested



**Loose-Fitting Powered
Air-Purifying Respirator (PAPR)**
APF= 25



**Hood Powered Air-Purifying
Respirator (PAPR)**
APF= 25

Atmosphere-supplying respirators, which provide clean air from an uncontaminated source.



**Full Facepiece Supplied-Air Respirator (SAR)
with an auxiliary Escape Bottle**
APF=1,000
APF = 10,000 (if used in "escape" mode)
Needs to be fit tested



**Full Facepiece Abrasive Blasting
Continuous Flow**
APF=1,000
Needs to be fit tested



**Full Facepiece Self-Contained
Breathing Apparatus (SCBA)**
Pressure demand mode is APF=10,000
Needs to be fit tested

University of Alaska Anchorage	Section EHS/RM
ADMINISTRATIVE SERVICES MANUAL	Program No.
EHS/RM Programs	Page 10
Title <i>Respirable Crystalline Silica</i>	Effective Date 05/27/2021

Appendix B – 1926.1153(c)(1) Table 1

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤ 4 hours/shift	>4 hours/shift
(i) 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
(ii) 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	None	APF 10
	-When used indoors or in an enclosed area.	APF 10	APF 10
(iii) 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	None	None

University of Alaska Anchorage	Section EHS/RM
ADMINISTRATIVE SERVICES MANUAL	Program No.
EHS/RM Programs	Page 11
Title <i>Respirable Crystalline Silica</i>	Effective Date 05/27/2021

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤ 4 hours/shift	>4 hours/shift
	Dust collector must provide the airflow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency.		
(iv) Walk-behind 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:		
	-When used outdoors.	None	None
	-When used indoors or in an enclosed area.	APF 10	APF 10
(v) 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

University of Alaska Anchorage	Section EHS/RM
ADMINISTRATIVE SERVICES MANUAL	Program No.
EHS/RM Programs	Page 12
Title <i>Respirable Crystalline Silica</i>	Effective Date 05/27/2021

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤ 4 hours/shift	>4 hours/shift
(vi) 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 manufacturer's instructions to minimize dust emissions.	None	None
(vii) Handheld and stand-mounted drills (including impact and rotary hammer drills)	Use drill equipped with commercially available shroud or cowl with dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the airflow 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
(viii) 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.	APF 10	APF 10

University of Alaska Anchorage	Section EHS/RM
ADMINISTRATIVE SERVICES MANUAL	Program No.
EHS/RM Programs	Page 13
Title <i>Respirable Crystalline Silica</i>	Effective Date 05/27/2021

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤ 4 hours/shift	>4 hours/shift
(ix) 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
	OR		
	Operate from within an enclosed cab and use water for dust suppression on drill bit.	None	None
(x) Jackhammers and handheld powered chipping tools	Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact:		
	-When used outdoors.	None	APF 10
	-When used indoors or in an enclosed area.	APF 10	APF 10
	OR		
	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:		
	-When used outdoors.	None	APF 10
	-When used indoors or in an enclosed area.	APF 10	APF 10

University of Alaska Anchorage	Section EHS/RM
ADMINISTRATIVE SERVICES MANUAL	Program No.
EHS/RM Programs	Page 14
Title <i>Respirable Crystalline Silica</i>	Effective Date 05/27/2021

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤ 4 hours/shift	>4 hours/shift
(xi) Handheld grinders for mortar removal (<i>i.e.</i> , tuckpointing)	Use grinder equipped with commercially available shroud and dust collection system.	APF 10	APF 25
	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.		
(xii) 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.	None	None
	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.		
	OR		
	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.		

University of Alaska Anchorage	Section EHS/RM
ADMINISTRATIVE SERVICES MANUAL	Program No.
EHS/RM Programs	Page 15
Title <i>Respirable Crystalline Silica</i>	Effective Date 05/27/2021

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤ 4 hours/shift	>4 hours/shift
	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:		
	-When used outdoors.	None	None
	-When used indoors or in an enclosed area.	None	APF 10
(xiii) Walk-behind milling machines and floor grinders	Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface.	None	None
	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.		
	OR		
	Use machine equipped with dust collection system recommended by the manufacturer.	None	None
	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 greater efficiency and a filter-cleaning mechanism.		

University of Alaska Anchorage	Section EHS/RM
ADMINISTRATIVE SERVICES MANUAL	Program No.
EHS/RM Programs	Page 16
Title <i>Respirable Crystalline Silica</i>	Effective Date 05/27/2021

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤ 4 hours/shift	>4 hours/shift
	When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes.		
(xiv) 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.	None	None
	Operate and maintain machine to minimize dust emissions.		
(xv) 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.	None	None
	Operate and maintain machine to minimize dust emissions.		
	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.	None	None
	Operate and maintain machine to minimize dust emissions.		
	OR		

University of Alaska Anchorage	Section EHS/RM
ADMINISTRATIVE SERVICES MANUAL	Program No.
EHS/RM Programs	Page 17
Title <i>Respirable Crystalline Silica</i>	Effective Date 05/27/2021

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤ 4 hours/shift	>4 hours/shift
	Use a machine equipped with supplemental water spray designed to suppress dust. Water must be combined with a surfactant.	None	None
	Operate and maintain machine to minimize dust emissions.		
(xvi) 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).	None	None
	Operate and maintain machine in accordance with manufacturer's instructions to minimize dust emissions.		
	Use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote control station.		
(xvii) 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
	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
(xviii) Heavy equipment and utility vehicles for tasks such as grading and excavating but not including:	Apply water and/or dust suppressants as necessary to minimize dust emissions.	None	None

University of Alaska Anchorage	Section EHS/RM
ADMINISTRATIVE SERVICES MANUAL	Program No.
EHS/RM Programs	Page 18
Title <i>Respirable Crystalline Silica</i>	Effective Date 05/27/2021

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤ 4 hours/shift	>4 hours/shift
	OR		
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

University of Alaska Anchorage	Section EHS/RM
ADMINISTRATIVE SERVICES MANUAL	Program No.
EHS/RM Programs	Page 19
Title <i>Respirable Crystalline Silica</i>	Effective Date 05/27/2021

Appendix B Regulated Area Posting

