

MIOSHA

Michigan Occupational Safety and Health Administration (MIOSHA)
Department of Labor and Economic Opportunity (LEO)

AGENCY INSTRUCTION

DOCUMENT IDENTIFIER:
MIOSHA-COM-20-5

DATE:
August 24, 2020

SUBJECT: Silica – State Emphasis Program (SEP)

- I. Purpose. This instruction establishes a state emphasis program (SEP) to reduce employee exposures to respirable crystalline silica (RCS) and prevent silicosis.
- II. Scope. This instruction applies to the Construction Safety and Health Division (CSHD), Consultation Education and Training Division (CETD), the General Industry Safety and Health Division (GISHD), and Technical Services Division (TSD).
- III. References.
 - A. Agency Instruction, MIOSHA-COM-05-2, [Abatement Assurance and Follow-up Inspection Procedures](#), as amended.
 - B. Agency Instruction, MIOSHA-COM-13-1, [Dual, One-MIOSHA, Intra-Office Assistance, and Transfer of Inspections/Investigations](#), as amended.
 - C. Agency Instruction, MIOSHA-COM-20-1, [Companion and Expanded Inspections](#), as amended.
 - D. Division Instruction, CSHD-COM-09-1, [Construction Inspection Targeting](#), as amended.
 - E. Executive Office of the President, Office of Management and Budget, [North American Industry Classification System \(NAICS\) Manual](#), as amended.
 - F. GISHD, [General Industry System for Programmed Inspections](#), November 2019.
 - G. General Industry Safety and Health Standard Part 590. /R325.59001 et seq., [Silica In General Industry](#).
 - H. Michigan State University, [Recommended Medical Screening Protocol for Silica Exposed Workers](#).
 - I. MIOSHA [Field Operations Manual \(FOM\)](#), as amended.
 - J. MIOSHA webpage [Silica](#).
 - K. Occupational Health Standards Part 690. /R325.69001 et seq., [Silica In Construction](#).
 - L. Occupational Safety and Health Administration, Instruction CPL 02-02-080, June 25, 2020, [Inspection Procedures for the Respirable Crystalline Silica Standards](#).
 - M. Occupational Safety and Health Administration, Instruction CPL 03-00-023, February 4, 2020, [National Emphasis Program \(NEP\) – Respirable Crystalline Silica](#).

- N. Occupational Safety and Health Administration, Occupational Exposure to Respirable Crystalline Silica, March 25, 2016, [Federal Register](#), vol. 81, no. 58, pp. 16286-16889.
 - O. Occupational Safety and Health Administration Publication 3465, (2012), [Solutions for the Prevention of Musculoskeletal Injuries in Foundries](#).
- IV. Distribution. MIOSHA Staff; Federal OSHA; S-drive Accessible; MIOSHA Messenger; and Internet Accessible.
- V. Next Review Date. This instruction will be reviewed in one year from date of issuance.
- VI. Contact. [Lawrence Hidalgo](#), Director, CSHD; [Nella Davis-Ray](#), Director, CETD; [Adrian Rocskay](#), Director, GISHD; and [Ron Ray](#), Director, TSD.
- VII. Originator. Barton G. Pickelman, Director.
- VIII. Background. In 2016 the US Occupational Safety and Health Administration (OSHA) amended its standards for RCS based on research that showed that the old exposure limits for RCS did not adequately protect worker health. OSHA describes the research in the [Federal Register](#) publication of the new occupational health standards. The new federal standards are found at 29 C.F.R. §1910.1053, Respirable Crystalline Silica, for general industry and 29 C.F.R. § 1926.1153, Respirable Crystalline Silica, for construction. In the revised regulations, OSHA lowered the permissible exposure limit (PEL) from 100 µg/m³ to 50 µg/m³ in general industry and from 250 µg/m³ to 50 µg/m³ for construction and shipyards, and it issued expanded standards for the substance. The expanded standards added requirements for exposure assessment, control methods (construction only), regulated areas (general industry only), respiratory protection, housekeeping, a written exposure control plan, medical surveillance, communication of hazards to employees, and recordkeeping.
- MIOSHA adopted the federal standards for RCS in 2017, as Occupational Health Standards [Part 690](#), Silica in Construction, and General Industry Safety and Health Standard [Part 590](#), Silica in General Industry. This agency instruction adopts the OSHA National Emphasis Program (NEP) for RCS, [CPL 03-00-023](#), and the OSHA enforcement directive for respirable crystalline silica, [CPL 02-02-080](#). The NEP has been adopted with modifications. In particular, the targeting system has been adapted to the type of silica-generating industries in this state and the type of industries in this state that cause confirmed cases of silicosis. When the NEP references the OSHA Field Operations Manual and federal directives, the corresponding sections of the MIOSHA [FOM](#) and MIOSHA instructions will be followed.
- IX. Enforcement Activities.
- A. All inspections under this SEP will be conducted by an industrial hygienist (IH).
 - B. All inspections under this SEP will follow the OSHA enforcement directive for respirable crystalline silica, [CPL 02-02-080](#).
 - C. Number of Inspections. MIOSHA will attempt to conduct 88 inspections under this SEP during the 12-month period after the enforcement delay expires, as

feasible with business shutdowns, inspection resource limitations, or other impediments due to the coronavirus pandemic. This goal is based on the requirement in the OSHA NEP that each of its regions target RCS in at least two percent of its inspections every year. Two percent of the 4,396 inspections conducted by MIOSHA in FY 2019 would be 88 inspections.

- D. Inspections will be considered to be part of the SEP and will be coded as such per section XIV of this instruction if their scope involves determining the employer's compliance with Occupational Health Standards [Part 690](#), Silica in Construction, or General Industry Safety and Health Standard [Part 590](#), Silica in General Industry. They would include:
1. Programmed inspection assignments issued under this SEP.
 2. Programmed inspection assignments not issued under this SEP but encompassing RCS if air monitoring is conducted for RCS.
 3. Complaint inspections, referral inspections, and fatality inspections for RCS.
 4. Complaint inspections, referral inspections, and fatality inspections not originally assigned for RCS but expanded to include RCS if air monitoring is conducted for RCS.
 5. Follow-up inspections for RCS.
 6. Any other inspections that involve air monitoring for RCS.
- E. Targeting.
1. GISHD. GISHD will create a targeting list of employers based on the NAICS codes in [Appendix A](#) of this instruction. The primary industries targeted under the SEP will be NAICS codes 331511, 331512, and 331513 due to their RCS overexposures nationally and due to their prevalence of silicosis cases in Michigan.
 2. CSHD. CSHD will develop a targeted list of worksites using a list of active construction projects downloaded monthly from the Dodge database (see CSHD-COM-09-1, [Construction Inspection Targeting](#)), IH and safety officer (SO) observations of construction sites (i.e., knowledge gathered by SO/IH "drive-bys"), and government reports (e.g., lists of major road and bridge projects from the Michigan Department of Transportation website). [Appendix B](#) lists affected construction industry NAICS codes.
- F. Inclusion of RCS in Scope of Inspection. The IH shall evaluate the employer's compliance with [Part 590](#), Silica in General Industry, and [Part 690](#), Silica in Construction on all programmed inspections assigned under this SEP; on all comprehensive health inspections; and on all unprogrammed activities (complaints, referrals, fatalities) alleging RCS hazards. In addition, if an IH discovers potential exposure to RCS during an inspection not originally assigned to examine RCS, the IH shall expand the investigation to address the RCS hazards

using the procedures in MIOSHA-COM-20-1, [Companion and Expanded Inspections](#). Per the MIOSHA [FOM](#), if the inspection scope is partial, the IH must expand the scope to address any potentially serious hazard in plain view or discovered during the inspection process, including the RCS hazards. The IH will be observant for and understand the sources of RCS hazards when encountering the industries and work processes listed and described in Appendices A and B of [CPL 03-00-023](#) and Appendices F and G in [CPL 02-02-080](#).

- G. If an SO discovers potential exposure to RCS, the SO will contact the appropriate health supervisor to make an Interoffice Assistance (IOA) Request for RCS in accordance with MIOSHA-COM-13-1, [Dual, One-MIOSHA, Intra-Office Assistance, and Transfer of Inspections/Investigations](#).
 - H. Employer Resources. The IH will direct employers to MIOSHA's webpage [Silica](#), where resources are available such as a MIOSHA fact sheet on silica, a silica training PowerPoint, and a sample written silica exposure control plan.
 - I. Ergonomics. Since NAICS 331 (Primary Metal Manufacturing) is a high-hazard industry targeted under MIOSHA's strategic plan for 2019-2023 due to its high injury and illness rates, mainly from ergonomic-related injuries and illnesses, the IH will address ergonomic hazards on NAICS 331 inspections and issue general duty clause citations or recommendations for ergonomic hazards as appropriate. The IH may recommend employers utilize OSHA Publication 3465, (2012), [Solutions for the Prevention of Musculoskeletal Injuries in Foundries](#) as part of a workplace ergonomics program to reduce musculoskeletal disorders that are caused by repetitive motion or mechanical stress.
- X. Enforcement Delay.
- A. Programmed inspections assigned under this SEP shall not be initiated until three months after the issuance date of this SEP.
 - B. During the enforcement delay:
 - 1. CET will conduct outreach.
 - 2. The enforcement divisions will continue to respond to complaints, referrals, hospitalizations, fatalities, occupational disease reports, and intra-office assistance requests involving RCS.
 - 3. Programmed inspections not assigned under this SEP and any other type of health inspection that identify exposure to RCS and potential violations of Occupational Health Standards [Part 690](#), Silica in Construction, or General Industry Safety and Health Standard [Part 590](#), Silica in General Industry shall be expanded to include RCS in accordance with Agency Instruction, MIOSHA-COM-20-1, [Companion and Expanded Inspections](#).
 - 4. Safety officers will continue to make intra-office assistance requests for RCS per Agency Instruction, MIOSHA-COM-13-1, [Dual, One-MIOSHA, Intra-Office Assistance, and Transfer of Inspections/Investigations](#).

5. Compliance officers shall code all RCS-related activities in OIS as described in Section XIV.

XI. Follow-Up Inspections.

- A. If an employer covered by the general industry standard has not reduced RCS exposures to or below the PEL, or if an employer covered by the construction standard has not either fully or properly implemented required engineering controls, work practices, and respiratory protection for a task listed on Table 1 of Occupational Health Standards [Part 690](#) or reduced RCS exposures to or below the PEL, within the time period specified on the citation, then a follow-up inspection shall be conducted in accordance with the MIOSHA [FOM](#) and Agency Instruction, MIOSHA-COM-05-2, [Abatement Assurance and Follow-up Inspection Procedures](#).
- B. Follow-up inspections should also be conducted if there are any unabated violations of other provisions of the standard.
- C. Rule 1349 citations should be issued if there are only unabated other-than-serious citations, per Agency Instruction, MIOSHA-COM-05-2, [Abatement Assurance and Follow-up Inspection Procedures](#).
- D. For situations where follow-up inspections cannot be performed (for example, due to temporary, intermittent, or mobile operations), the enforcement divisions should when possible require the employer to provide written updates documenting the progress of abatement efforts.
- E. A follow-up inspection is not required when the enforcement division has specific knowledge and documentation indicating there are no workers exposed to RCS.

XII. Coordination with Michigan State University's Department of Occupational and Environmental Medicine (MSU OEM).

- A. Where the IH suspects that cases of silicosis may not have been reported on the OSHA 300 log (i.e., conversation with workers, history of RCS exposure over the permissible exposure limit, and multiple long-term workers), and the misreading of a chest radiograph may have played a role, the IH will consider discussing the case with Dr. Rosenman of Michigan State University (MSU). Dr. Rosenman has offered to provide a free reading of the x-ray and B reader classification.
- B. The IH will complete the form OH-48 (Industrial Hygiene Summary for Silica). A copy of the form can be found in [Appendix C](#).
- C. If exposure monitoring shows results above the limit of detection, or if recommended by MSU, the IH shall provide the employer with a copy of the MSU document, [Recommended Medical Screening Protocol for Silica Exposed Workers](#), along with the inspection findings.
- D. Each quarter, TSD will send MSU OEM a copy of the Air/Material Sampling Reports (form 91S) and Air Contaminant Data Sheets (form OH-451) for any

RCS samples collected by MIOSHA and the Industrial Hygiene Summary for Silica (form OH-48) for any silica inspections that quarter.

- XIII. Outreach. Upon issuance of this instruction, CET shall conduct outreach programs for this SEP for at least three months. The outreach includes letters to establishments targeted for programmed inspections under the SEP advising them of their targeted status and offering CET consultation services; informing the public of the SEP through the MIOSHA eNews, MIOSHA News, and GovDelivery announcement; and resources for employers at the MIOSHA website. [Appendix D](#) is a copy of the outreach plan.
- XIV. OSHA Information System (OIS) Coding.
- A. All enforcement inspections and compliance assistance interventions conducted under this SEP shall be coded as “RCS-NEP” under the National Emphasis Program field in OIS and as “SILICA” under the State Emphasis Program on the OIS Inspection tab on the Inspection Type subtab.
 - B. In enforcement, for all programmed inspections initiated using the targeting list of this SEP, on the OIS Inspection Type tab/page, code “RCS-NEP” as the Primary Emphasis Program.
 - C. Whenever a consultation request/visit is made related to this SEP, the NEP code “RCS-NEP” shall be recorded in the appropriate field on the Consultation request/visit forms.
 - D. As of the effective date of this Instruction, RCS inspections shall no longer be coded in OIS field using the Additional Code “N-02 SILICA.”

APPENDIX A

Targeted Industries in General Industry

NAICS CODE¹	Industry	Number of Establishments in Michigan³	Number of Establishments in Michigan with More Than 10 Employees
327110	Pottery, Ceramics, and Plumbing Fixture Manufacturing	1	1
327120	Clay Building Material and Refractories Manufacturing	15	15
327212	Other Pressed and Blown Glass and Glassware Manufacturing	4	4
327213	Glass Container Manufacturing	0	0
327320	Ready-Mix Concrete Manufacturing	79	79
327331	Concrete Block and Brick Manufacturing	9	9
327332	Concrete Pipe Manufacturing	7	7
327390	Other Concrete Product Manufacturing ²	30	30
327991	Cut Stone and Stone Product Manufacturing ²	14	14
327992	Ground or Treated Mineral and Earth Manufacturing	5	5
327993	Mineral Wool Manufacturing	5	5
327999	All Other Miscellaneous Nonmetallic Mineral Product Manufacturing	3	3
331511	Iron Foundries ²	47	35
331512	Steel Investment Foundries	16	13
331513	Steel Foundries (except Investment)	23	9
331524	Aluminum Foundries (except Die-Casting)	28	13

¹These NAICS had at least one establishment with an overexposure to RCS under the former PEL in the OSHA inspection history for the US.

²These NAICS had six or more establishments with an overexposure to RCS under the former PEL in the OSHA inspection history for the US.

³According to a publicly available database of companies in Michigan.

APPENDIX B

Targeted Industries in Construction

NAICS CODE	Industry	Number of Establishments in Michigan¹
236100	Residential Building Construction	18,722
236200	Nonresidential Building Construction	1,854
237100	Utility System Construction	828
237200	Land Subdivision	2,254
237300	Highway, Street, and Bridge Construction	683
237900	Other Heavy and Civil Engineering Construction	276
238100	Foundation, Structure, and Building Exterior Contractors	6,224
238200	Building Equipment Contractors	9,462
238300	Building Finishing Contractors	6,506
238900	Other Specialty Trade Contractors	7,293

¹According to a publicly available database of companies in Michigan.

APPENDIX C

Industrial Hygiene Summary for Silica

**INDUSTRIAL HYGIENE SUMMARY FOR SILICA & OTHER WORK-RELATED LUNG
DISEASE INVESTIGATIONS**

(Please Print Answers Rather Than Using Cursive)

GENERAL INFORMATION

1. Establishment

Name: _____
Worksite Address: _____
City: _____

MEDICAL INFORMATION

2. Number of workers exposed to silica: _____ other agents: _____

3. Names of all workers on OSHA 300 log recorded as having silicosis or other lung disease for up to 5 years.

Name of Employee/Year of Log	Name of Employee/Year of Log
_____	_____
_____	_____

4. Does the employer conduct a preplacement examination (circle answer)? Yes No

If Yes, does it include [circle answer(s)]:

a. Chest X-Ray – NIOSH B Reader	Yes	No
b. Chest X-Ray – No NIOSH B Reader	Yes	No
c. Pulmonary Function Test	Yes	No
d. Low Back X-Rays	Yes	No

Does the employer conduct periodic examinations (circle answer)? Yes No

If Yes, do they include [circle answer(s)]:

If Yes, indicate frequency:

a. Chest X-Ray – NIOSH B Reader	Yes	Freq _____	No
b. Chest X-Ray – No NIOSH B Reader	Yes	Freq _____	No
c. Pulmonary Function Test	Yes	Freq _____	No
d. Low Back X-Rays	Yes	Freq _____	No

Additional comments on medical information:

PERSONAL PROTECTIVE EQUIPMENT

Respirators

5. Indicate type of respirator worn (circle type). If a NIOSH approval number, please indicate. If more than one type is worn, specify the titles of personnel using each type.

Type NIOSH Approval #TC-21-C- Job Title _____
Not Used _____
Single Use _____
Particulate _____
High Efficiency _____
Other (specify) _____

WORK PRACTICES

6. Are tabletops, flat surfaces, and floors visibly dusty (circle answer)?

Beginning of sampling period?	Yes	No
End of sampling period?	Yes	No

7. How often does the company clean (circle answer)?

Daily Weekly Monthly Other Don't Know
Do they dust? Yes No Sweep? Yes No Vacuum? Yes No Wet Mop? Yes No

8. Did the breathing zone ever become visibly dusty during onsite visit? (approximate time)

_____ hours _____ minutes per _____ hour shift

VENTILATION SYSTEM (circle answer)

9. Type: Local Exhaust Ventilation General None
10. Is the ventilation system operational? Inadequate Adequate Not Determined
11. If adequate, did you use: Smoke Tube Velometer Air Test Results
Below PEL

PROGRAM ASSESSMENT

12. What changes would you recommend so that employees do not develop silicosis or other work-related lung disease? (List missing program elements addressed by citations, notices of potential hazards, and recommendations)

APPENDIX D

Outreach Plan

Name of Initiative: State Emphasis Program (SEP) on Anticipation, Recognition, Evaluation, and Control of Respirable Crystalline Silica (RCS)

Initiative Liaison: Anthony Smykla **Email:** SmyklaA@michigan.gov **Telephone:** 248.207.8643

Date Submitted: 8/17/2020

Check all that Apply: New/Revised Standard New Targeted Industry New Targeted Hazard

Divisions Involved:

- | | | |
|--|---|--|
| <input checked="" type="checkbox"/> Administration | <input type="checkbox"/> Appeals | <input checked="" type="checkbox"/> CET Division
(Lead) |
| <input checked="" type="checkbox"/> CSHD | <input checked="" type="checkbox"/> GISHD | <input checked="" type="checkbox"/> TSD |

Purpose/Scope:

This plan identifies MIOSHA activities that will be completed from effective date of the SEP to the expiration date to educate MIOSHA staff, as well as employers and employees in the State of Michigan, about the implementation of the SEP to identify and reduce or eliminate worker exposures to RCS in general industry and construction. The SEP targets specific industries expected to have the highest exposures to RCS. This outreach program will inform MIOSHA staff, employers, and employees of the SEP and will be conducted for three months prior to any SEP-related RCS inspections in accordance with OSHA Memorandum on Procedures for Local and Regional Emphasis Programs, December 3, 2014.

1. Policy/Procedure

New or revised MIOSHA policies, procedures, instructions, or interpretations. Federal OSHA has an Instruction on Inspection Procedures for the Respirable Crystalline Silica Standards. Federal OSHA has a National Emphasis Program – Respirable Crystalline Silica which requires state participation. MIOSHA is now adopting the OSHA instruction and NEP for RCS.

2. Staff Training

MIOSHA staff training. For example: a new/revised rule, measures to implement the rule, hazard(s) that initiated need for the rules, and/or MIOSHA policy or procedures affected by the rules.

All staff with enforcement or consultation responsibilities under the SEP will need training.

- CETD – outreach presentation will be added to CET Division meeting including information on inspection procedures.
- GISHD – inspection procedure presentation will be added to GISHD staff meeting including information on outreach.
- CSHD – inspection procedure presentation will be added to CSHD staff meeting including information on outreach.
- TSD – provide and train staff on instrumentation (handheld direct-read respirable dust) available for staff use.
- TSD – provide equipment for and train staff on use for silica air monitoring and submission for analysis.
- TSD – provide equipment and train staff on use for silica bulk sample collection and submission for analysis.
- TSD – train staff on silica polymorphs and required analysis (i.e., where cristobalite and tridymite analysis needed).
- CET/TSD – develop silica air monitoring toolbox talk for CSHD/GISHD staff.

3. Communication (Check all that apply.)

Press Release – NOTE: MIOSHA does not typically issue a release for new SEPs.

MIOSHA News – CSHD, GISHD and/or CETD will author one or more silica article(s) during the SEP.

MIOSHA eNews

MIOSHA Website – Update MIOSHA [Silica](#) page. Review materials/links and update as needed.

Current materials/links:

- Spotlight – Link to resources pages
- Standards: Part 590. GI and Part 690.
- MIOSHA Resources
 - Crystalline Silica Exposure in Construction and General Industry
 - Silica Outreach Training PowerPoint
 - Sample Written Silica Exposure Control Plan
- Federal OSHA Resources
 - Overview of the Rule
 - Fact Sheet on Construction
 - Fact Sheet n General Industry/Maritime
 - OSHA's Silica Webpage
 - Frequently Asked Questions
 - Small Entity Compliance Guide - Construction
 - New and Revised Fact Sheets

NOTE: Additional web content may include

- Silica toolbox talks

- Written exposure control plan for specific tasks (ex. jackhammering)

MIOSHA Messenger – When SEP is effective, announcement will be made to MIOSHA staff.

GovDelivery Message – When SEP is effective, CETD will draft announcement to our subscribers.

Social Media – When SEP is effective, CETD will post announce to our subscribers.

Other –

- Include information on no-cost on-site consultation services
- Provide targeted CET seminars via Microsoft Teams platform
- Offer silica best practices presentation at 2021 MSC

4. Educational Resources (Check all that apply.)

Promote existing DVDs in lending library and available for MIOSHA staff use.

New reference materials for MIOSHA staff use.

New or revised MIOSHA publications/fact sheets. Review existing resources, generate fact sheet for GI and Construction on Controlling Exposures to RCS as needed.

New or revised MIOSHA presentations/training – Liaison to generate construction-facing training on competent person responsibilities and best practices for compliance. Assign GI-facing competent person training and best practices to CET staff.

Other – Generate MTI Level 2 Standards course for Silica in Construction and/or Silica in GI. This could be a half-day course. Include additional SEP information in existing construction courses such as Health Hazards in Construction in next MTI review cycle.

5. Outreach Activities (Check all that apply.)

Develop, revise, and conduct training program. Liaison to generate construction-facing training on competent person responsibilities and best practices for compliance. Assign GI-facing competent person training and best practices to CET staff.

Targeted consultation. CET IH staff to receive “warm-call” list to offer targeted consultations.

Alliances/partnerships with impacted public or private organizations.

- Contact all alliance partners with potential RCS exposures.
- Target co-sponsors and MVPP companies or alliances (e.g., HBA, CAM, AGC, DTC, Walbridge, Holly, Marathon, DTE).
- Seek participation of MI FACE staff for health effects outreach seminars.
- Seek input from construction tools manufacturers on controls.

Letters to target industries – Informing them of CET services, make them aware of the SEP.

Targeted enforcement – As specified in NEP.

No outreach activities needed.

6. Data Generated (Check all that apply.)

Number of training seminars conducted.

Number of employees trained.

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Number of consultation activities conducted (and what type).

Number of compliance inspections conducted.

7. Workgroup

Create a workgroup to implement outreach plan. Staff from TSD, CET, GISHD, CSHD to be members.

Anticipated Launch Date: 8/17/2020 **Length of Initiative:** 1 year