Respirable Crystalline Silica (RCS) Medical Surveillance Information for Employers

(all states except California)

Assembled by the Yale School of Medicine

Based on OSHA RCS Standard for General Industry – Medical Surveillance

- 1910.1053 (i) www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1053
- 1910.1053 App B www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1053AppB

This guidance does not cover aspects such as Respiratory Protection and Hazard Communication. These can be found in the OSHA silica standard (1910.1053) referenced above.

Does my employee need medical surveillance?

Is/will the employee be exposed to RCS at or above the Action Level (25 ug/m^3) for ≥ 30 days per year?

NO → **No medical surveillance is required.**

YES ↓

Employer is required to make medical surveillance available at no cost to the employee and at a reasonable time and place.

- **Initial exam shall be within 30 days of initial assignment[1]**
- **Periodic exams shall be at least every 3 years or more frequently if recommended by an appropriate health care provider**

An employee can refuse medical surveillance[2].

[1] Unless the employee has received a medical examination that meets the requirements of 1910.1053(i) within the last 3 years.

[2] The employer must ensure that each employee can demonstrate knowledge and understanding of the purpose of medical surveillance and the medical tests involved, as part of the Hazard Communication requirements (1910.1053 (j)).

What is required for medical surveillance?

A physician or other licensed health care professional (PLHCP), such as a doctor, physician assistant (PA), or advanced practice registered nurse (APRN), to perform the examinations and procedures.

Definition of PLHCP: A PLHCP is an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows them to independently provide or be delegated the responsibility to provide some or all of the particular health care services required below.

Examinations and Medical Testing

- **Medical and work history** with emphasis on:
  - Past, present, and anticipated exposure to RCS, dust, other agents affecting the respiratory system.
  - History of respiratory system dysfunction including signs and symptoms of respiratory disease.
  - History of tuberculosis.
  - Smoking status and history.
- **Physical exam** with special emphasis on the respiratory system
- **Chest X-Ray**
  - NIOSH-certified B reader must interpret and classify according to the International Labour Office (ILO) Classification of Radiographs of Pneumoconioses.
  - Single posteroanterior radiograph of the chest at full inspiration.
  - Low dose Chest CT scan is not required by OSHA, but is recommended, as it can better identify early silicosis.
- **Pulmonary Function Test**
  - Administered by a spirometry technician currently certified by a NIOSH-approved spirometry course.
  - Includes forced vital capacity (FVC), forced expiratory volume in one second (FEV1) and FEV1/FVC ratio.
- **Test for Latent Tuberculosis:** tuberculin skin test or interferon-gamma release assay (IGRA) blood test. *Only required on initial examination.*
- **Any other tests deemed appropriate** by the PLHCP

What Information and Documentation is required?

Employer to PLHCP

- Provide copy of the 1910.1053 standard.
- Employee's former, current, and anticipated duties relating to occupational RCS exposure.
- Employee's former, current, and anticipated level of occupational exposure to RCS.
- Description of PPE used or to be used by the employee, including when and for how long the employee has used or will use that equipment.
- Any employment-related exam information that is within the control of the employer.

PLHCP to Employee – OSHA 1910.1053 Appendix B Form 1 (Written Medical Report for Employee)

- Results of all exams and procedures and any medical conditions that require further evaluation.
- Any recommended limitations on the employee's use of a respirator.
- Any recommended limitations on the employee's exposure to RCS.
- Referral to a Board-Certified Specialist in Pulmonary Disease or Occupational Medicine, if deemed appropriate.
- Due within 30 days of the exam.

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What Information and Documentation is required? (continued)

PLHCP to Employer – OSHA 1910.1053 Appendix B Form 2 (Written Medical Opinion for Employer)

- Any recommended limitations on the employee's use of a respirator.
- Any recommended limitations on the employee's exposure to RCS*.
- Referral to specialist, if deemed appropriate*.
- Due within 30 days of the exam.

* *Recommendation for limitation on silica exposure and referral to a specialist require employee's written authorization for disclosure of this information to the employer* ***(OSHA 1910.1053 Appendix B Form 3)****. Employers are responsible for arranging and covering the cost of a specialist.*

If PLHCP refers the employee to a specialist

- Employer makes available a medical examination by a Board-Certified Specialist in Pulmonary Disease or Occupational Medicine within 30 days after receiving the PHLCP's opinion.
- Employer provides the same information to the specialist as to the PHLCP (employee duties, RCS exposure levels, PPE use, and previous employment-related exam information).
- Specialist must provide a written medical report to the employee and a medical opinion to the employer within 30 days (OSHA 1910.1053 Appendix B Form 1 and OSHA 1910.1053 Appendix B Form 2).

Employee to Employer (written documentation not required by OSHA)

- Signed statement that documents that the employee has received training regarding silica medical surveillance and accepts or declines medical surveillance.

Potential Resources to Identify a PLHCP

- Association of Occupational and Environmental Clinics
  - https://aoec.org/
  - 24 clinics listed, multiple states
- American College of Occupational and Environmental Medicine
  - https://acoem.org/acoem-find-a-provider
- Concentra
  - https://www.concentra.com/
- Examinetics
  - https://www.examinetics.com/
  - Mobile occupational health services, serves all states except Alaska and Hawaii

Attachments

Typical Respirator Medical Evaluation Questionnaire

Demographics

Date: _____

Name: _____ Phone Number: _____

Date of Birth: _____ Age: _____

Height: _____ ft. _____ in. Weight: _____ lbs. Gender: (check one): ☐ Male ☐ Female

Medical History

Name of your primary care provider: _____

Are you taking any medications (including over-the-counter medications): ☐ Yes ☐ No

List your current medications: _____

_____

_____

Do you *currently* smoke tobacco, or have you smoked tobacco in the last month: ☐ Yes ☐ No

If you *previously* smoked tobacco, when did you last smoke? _____

If you *currently* or *previously* smoked tobacco, how many years did you smoke? _____

How many cigarettes per day did you typically smoke? _____

Have you *ever had* any of the following conditions?

a. Seizures: ☐ Yes ☐ No
b. Diabetes (sugar disease): ☐ Yes ☐ No
c. Allergic reactions that interfere with your breathing: ☐ Yes ☐ No
d. Claustrophobia (fear of closed-in places): ☐ Yes ☐ No
e. Trouble smelling odors: ☐ Yes ☐ No

Have you *ever had* any of the following pulmonary or lung problems?

a. Asbestosis: ☐ Yes ☐ No
b. Asthma: ☐ Yes ☐ No
c. Chronic bronchitis: ☐ Yes ☐ No
d. Emphysema: ☐ Yes ☐ No
e. Pneumonia: ☐ Yes ☐ No
f. Tuberculosis: ☐ Yes ☐ No
g. Silicosis: ☐ Yes ☐ No
h. Pneumothorax (collapsed lung): ☐ Yes ☐ No
i. Lung cancer: ☐ Yes ☐ No
j. Broken ribs: ☐ Yes ☐ No
k. Any chest injuries or surgeries: ☐ Yes ☐ No
l. Any other lung problem that you've been told about: ☐ Yes ☐ No

Do you *currently* have any of the following symptoms of pulmonary or lung illness?

a. Shortness of breath: ☐ Yes ☐ No
b. Shortness of breath that is worse at your job: ☐ Yes ☐ No
c. Coughing that produces phlegm (thick sputum): ☐ Yes ☐ No
d. Coughing up blood in the last month: ☐ Yes ☐ No
e. Wheezing: ☐ Yes ☐ No
f. Wheezing that interferes with your job: ☐ Yes ☐ No
g. Chest pain when you breathe deeply: ☐ Yes ☐ No
h. Any other symptoms that you think may be related to lung problems: ☐ Yes ☐ No

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Have you *ever had* any of the following cardiovascular or heart problems?

a. Heart attack: ☐ Yes ☐ No
b. Stroke: ☐ Yes ☐ No
c. Angina: ☐ Yes ☐ No
d. Heart failure: ☐ Yes ☐ No
e. Swelling in your legs or feet (not caused by walking): ☐ Yes ☐ No
f. Heart arrhythmia (heart beating irregularly): ☐ Yes ☐ No
g. High blood pressure: ☐ Yes ☐ No
h. Any other heart problem that you've been told about: ☐ Yes ☐ No
i. Frequent pain or tightness in your chest: ☐ Yes ☐ No
j. Pain or tightness in your chest during physical activity: ☐ Yes ☐ No
k. Pain or tightness in your chest that interferes with your job: ☐ Yes ☐ No
l. Heartburn or indigestion that is not related to eating: ☐ Yes ☐ No
m. Any other symptoms that you think may be related to heart or circulation problems: ☐ Yes ☐ No

For employees selected to use a full-face respirator or self-contained breathing apparatus (SCBA):

Have you *ever lost* vision in either eye (temporarily or permanently): ☐ Yes ☐ No

Do you *currently* have any of the following vision problems?

a. Wear contact lenses: ☐ Yes ☐ No
b. Wear glasses: ☐ Yes ☐ No
c. Color blind: ☐ Yes ☐ No
d. Any other eye or vision problem: ☐ Yes ☐ No

Have you *ever had* an injury to your ears, including a broken ear drum: ☐ Yes ☐ No

Do you *currently* have any of the following hearing problems?

a. Difficulty hearing: ☐ Yes ☐ No
b. Wear a hearing aid: ☐ Yes ☐ No
c. Any other hearing or ear problem: ☐ Yes ☐ No

Have you *ever had* a back injury: ☐ Yes ☐ No

Do you *currently* have any of the following musculoskeletal problems?

a. Weakness in any of your arms, hands, legs, or feet: ☐ Yes ☐ No
b. Back pain: ☐ Yes ☐ No
c. Difficulty fully moving your arms and legs: ☐ Yes ☐ No
d. Pain or stiffness when you lean forward or backward at the waist: ☐ Yes ☐ No
e. Difficulty fully moving your head up or down: ☐ Yes ☐ No
f. Difficulty fully moving your head side to side: ☐ Yes ☐ No
g. Difficulty bending at your knees: ☐ Yes ☐ No
h. Difficulty squatting to the ground: ☐ Yes ☐ No
i. Climbing a flight of stairs or a ladder carrying more than 25 lbs: ☐ Yes ☐ No
j. Any other muscle or skeletal problem that interferes with using a respirator: ☐ Yes ☐ No

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Work Exposure History

Your current employer: _____

Your current job title: _____

Length of time in your current position: _____ Number of years worked in the stone industry: _____

List any previous occupations / jobs and years work: _____

_____

At work or at home, have you ever been exposed to hazardous solvents, hazardous airborne chemicals (e.g., gases, fumes, or dust), or have you come into skin contact with hazardous chemicals: ☐ Yes ☐ No

If "yes," name the chemicals / substances if you know them: _____

Have you been in the military services? ☐ Yes ☐ No

What personal protective equipment do you wear currently (circle all that apply):

☐ Gloves ☐ Hard hat ☐ Hearing protection ☐ Safety glasses ☐ Dust mask ☐ Respirator

Have you worn a respirator in the past (circle one): ☐ Yes ☐ No

If "yes," what type(s): _____

If you've used a respirator, have you ever had any of the following problems?

(If you've never used a respirator, go to the next question):

a. Eye irritation: ☐ Yes ☐ No
b. Skin allergies or rashes: ☐ Yes ☐ No
c. Anxiety: ☐ Yes ☐ No
d. General weakness or fatigue: ☐ Yes ☐ No
e. Any other problem that interferes with your use of a respirator: ☐ Yes ☐ No

Check the type of respirator you will use (you can check more than one category):

a. ☐ N, R, or P disposable respirator (filter-mask, non-cartridge type only).
b. ☐ Other type (for example, half- or full-facepiece type, powered-air purifying, supplied- air, self-contained breathing apparatus).

How many days each month are you expected to use the respirator: _____

How often are you expected to use the respirator:

a. Less than 5 hours per week: ☐ Yes ☐ No
b. Less than 2 hours per day: ☐ Yes ☐ No
c. 2 to 4 hours per day: ☐ Yes ☐ No
d. Over 4 hours per day: ☐ Yes ☐ No

Describe the work you'll be doing while you're using your respirator: _____

_____

Is there anything we forgot to ask you about regarding your health or work? _____

_____

Thank you for completing this questionnaire.

I certify that the above information is correct. Employee Signature: _____

Name (Last, First): _____ Date: _____

Questionnaire Reviewed by: _____ Date: _____

(Signature)

Print Name: _____ Degree: _____ Title: _____

OSHA 1910.1053 Appendix B Form 1
WRITTEN MEDICAL REPORT FOR EMPLOYEE

EMPLOYEE NAME: _____ **DATE OF EXAMINATION:** _____

TYPE OF EXAMINATION:

☐ Initial examination ☐ Periodic examination ☐ Specialist examination

☐ Other: _____

RESULTS OF MEDICAL EXAMINATION:

Physical Examination	☐ Normal	☐ Abnormal (see below)	☐ Not performed
Chest X-Ray	☐ Normal	☐ Abnormal (see below)	☐ Not performed
Breathing Test (Spirometry)	☐ Normal	☐ Abnormal (see below)	☐ Not performed
Test for Tuberculosis	☐ Normal	☐ Abnormal (see below)	☐ Not performed
Other: _____	☐ Normal	☐ Abnormal (see below)	☐ Not performed

Results reported as abnormal: _____

☐ **Your health may be at increased risk from exposure to respirable crystalline silica due to the following:**

_____

_____

RECOMMENDATIONS:

☐ No limitations on respirator use

☐ Recommended limitations on use of respirator: _____

☐ Recommended limitations on exposure to respirable crystalline silica: _____

Dates for recommended limitations, if applicable: _____ to _____
MM/DD/YYYY MM/DD/YYYY

☐ I recommend that you be examined by a Board-Certified Specialist in Pulmonary Disease or Occupational Medicine

☐ Other recommendations*:

_____

_____

Your next periodic examination for silica exposure should be in: ☐ 3 years ☐ Other: _____
MM/DD/YYYY

Examining Provider: _____ Date: _____
(Signature) MM/DD/YYYY

Provider Name: _____ Office Phone: _____

Office Address: _____

*These findings may not be related to respirable crystalline silica exposure or may not be work-related, and therefore may not be covered by your employer. These findings may necessitate follow-up and treatment by your personal physician.

Respirable Crystalline Silica standard (§ 1910.1053 or 1926.1153)

OSHA 1910.1053 Appendix B Form 2
WRITTEN MEDICAL OPINION FOR EMPLOYER

EMPLOYER: _____

EMPLOYEE NAME: _____ **DATE OF EXAMINATION:** _____

TYPE OF EXAMINATION:

☐ Initial examination ☐ Periodic examination ☐ Specialist examination

☐ Other: _____

USE OF RESPIRATOR:

☐ No limitations on respirator use

☐ Recommended limitations on use of respirator: _____

Dates for recommended limitations, if applicable: _____ to _____
MM/DD/YYYY MM/DD/YYYY

The employee has provided written authorization for disclosure of the following to the employer (if applicable):

_____

☐ This employee should be examined by an American Board-Certified Specialist in Pulmonary Disease or Occupational Medicine

☐ Recommended limitations on exposure to respirable crystalline silica: _____

_____

Dates for exposure limitations noted above: _____ to _____
MM/DD/YYYY MM/DD/YYYY

NEXT PERIODIC EVALUATION: ☐ 3 years ☐ Other: _____
MM/DD/YYYY

Examining Provider: _____ Date: _____
(Signature) MM/DD/YYYY

Provider Name: _____ Provider's Specialy: _____

Office Address: _____ Office Phone: _____

☐ I attest that the results have been explained to the employee.

The following is required to be checked by the Physician or other Licensed Health Care Professional (PLHCP):

☐ I attest that this medical examination has met the requirements of the medical surveillance section of the OSHA Respirable Crystalline Silica standard (§ 1910.1053(h) or 1926.1153(h)).

OSHA 1910.1053 Appendix B Form 3
EMPLOYEE AUTHORIZATION FOR CRYSTALLINE SILICA OPINION TO EMPLOYER

This medical examination for exposure to crystalline silica could reveal a medical condition that results in recommendations for (1) limitations on respirator use, (2) limitations on exposure to crystalline silica, or (3) examination by a specialist in pulmonary disease or occupational medicine. Recommended limitations on respirator use will be included in the written opinion to the employer. If you want your employer to know about limitations on crystalline silica exposure or recommendations for a specialist examination, you will need to give authorization for the written opinion to the employer to include one or both of those recommendations.

I hereby authorize the opinion to the employer to contain the following information, if relevant.
(please check all that apply):

☐ Recommendations for limitations on crystalline silica exposure

☐ Recommendation for a specialist examination

OR

☐ I do not authorize the opinion to the employer to contain anything other than recommended limitations on respirator use.

Please read and initial:

☐ I understand that if I do not authorize my employer to receive the recommendation for specialist examination, the employer will not be responsible for arranging and covering costs of a specialist examination.

Employee Name (printed):_____

Employee Signature:_____ Date: _____

EMPLOYEE ACKNOWLEDGEMENT OF TRAINING ON SILICA MEDICAL SURVEILLANCE AND WILLINGNESS TO PARTICIPATE IN MEDICAL SURVEILLANCE PROGRAM

☐ I have received training on and understand the purpose of the silica medical surveillance program offered by my employer and the medical tests involved.

☐ I accept participation in the medical surveillance program, which includes a questionnaire, physical exam, chest X-ray, pulmonary function test and a test for latent tuberculosis.

☐ I decline participation in the silica medical surveillance program offered by my employer.

Please sign below indicating that you affirm your checkbox choices on this form.

Employee Name (printed): _____

Employee Signature: _____ Date: _____