



A publication of the  
Oregon Independent Aggregate Association  
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## Oregon Independent Aggregate Association Newsletter

**September 2024**

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Article provided by Erwin Hackett- Chairman

For those trying to keep up with the respirable crystalline silica standards I have copied the drop down FAQ sheet from MSHA's website. Which should make it easier to peruse.

### Respirable Crystalline Silica (30 CFR Part 60) – Frequently Asked Questions

<https://www.msha.gov/respirable-crystalline-silica-30-cfr-part-60-frequently-asked-questions>

(Below Coal mining specific questions were not copied.)

**Updated July 29, 2024**

#### 60.1 – Scope; Compliance Dates

##### 1. What is respirable crystalline silica and how can it affect health?

Respirable crystalline silica (also known as silica dust or quartz dust) is a common occupational hazard for coal and metal/nonmetal (MNM) miners. Silica dust is generated by mining activities, including cutting, sanding, drilling, crushing, grinding, sawing, scraping, jackhammering, excavating, and hauling materials that contain silica.

Occupational exposure to respirable crystalline silica results in adverse health effects and increases risk of death. The adverse health effects include silicosis (i.e., acute silicosis, accelerated silicosis, chronic silicosis, and progressive massive fibrosis), nonmalignant respiratory diseases (e.g., emphysema and chronic bronchitis), lung cancer, and kidney disease. Each of these effects is chronic, irreversible, and potentially disabling or fatal. Exposure to mixed coal mine dust containing respirable crystalline silica can lead to the development of coal workers' pneumoconiosis, progressive massive fibrosis, and multi-dust pneumoconiosis. Occupational exposure to respirable crystalline silica is classified by the International Agency for Research on Cancer (IARC) as a human carcinogen

## **2. When do I have to comply with MSHA's new silica rule?**

The final rule took effect on June 17, 2024. Compliance with this final rule is required by April 14, 2025, for coal mine operators and April 8, 2026, for MNM mine operators.

## **60.10 – Permissible Exposure Limit (PEL)**

### **1. I am an MNM operator. Please explain how the new respirable crystalline silica permissible exposure limit (PEL) differs from the previous PELs.**

The final rule establishes a uniform PEL for respirable crystalline silica of 50 µg/m<sup>3</sup> and an action level of 25 µg/m<sup>3</sup> over a full shift, calculated as an 8-hour time weighted average (TWA) for all mines. The new PEL applies to all three forms of respirable crystalline silica either alone or in any combination (i.e., quartz, cristobalite, and/or tridymite).

The former PELs for the three polymorphs of respirable crystalline silica were based on the TLVs<sup>®</sup> Threshold Limit Values for Chemical Substances in Workroom Air Adopted by the ACGIH (American Conference of Governmental Industrial Hygienists) for 1973. The TLV<sup>®</sup> for respirable dust containing greater than 1% quartz was designed to limit exposures to less than 100 µg/m<sup>3</sup> for quartz, and to less than 50 µg/m<sup>3</sup> for cristobalite and tridymite, calculated as an 8-hour TWA.

## **60.11 – Methods of Compliance**

### **1. Is an environmental cab considered an engineering control?**

Yes. MSHA recognizes enclosed cabs or control booths with filtered breathing air as engineering controls. These must be properly maintained to remain effective.

## **60.12 – Exposure Monitoring**

### **1. Should I notify MSHA when a sampling result is over the PEL?**

Yes. Mine operators must immediately report any sampling result that exceeds the PEL to the District Manager or to any other MSHA office designated by the District Manager.

### **2. After the compliance date, how quickly do operators have to report sampling results above the PEL?**

Section 60.12 requires operators to immediately report all operator samples above the PEL to the MSHA District Manager or to any other MSHA office designated by the District Manager. MSHA does not expect operators to report within 15 minutes (as is required in section 50.10 of title 30 CFR for immediate notification of fatal and other accidents) upon receipt of the overexposure result. Generally, MSHA expects operators to notify the overexposure result by the start of the next work shift in writing (i.e., by email).

### **3. Can I continue to operate if sampling results exceed the action level but are below the PEL?**

Yes, you can continue to operate. If a sampling result is at or above the action level but at or below the PEL, the mine operator must continue to sample within 3 months of the previous sampling.

#### **4. How often do I need to conduct periodic evaluations?**

Mine operators are required to conduct periodic evaluations at least every 6 months or whenever there is a change in: production; processes; installation and maintenance of engineering controls; installation and maintenance of equipment; administrative controls; or geological conditions.

#### **5. Who can complete the periodic evaluations?**

Mine operators, or someone designated by the mine operator, must complete the periodic evaluations. As part of the requirements, mine operators must make a record of the evaluated change, the impact on respirable crystalline silica exposure, and the date of the evaluation. The mine operator must also post the record on the mine bulletin board and, if applicable, by electronic means, for the next 31 days.

#### **6. What if I identify no changes at my mine during my periodic evaluation?**

If during a periodic evaluation, the operator determines that there are no changes in production, processes, installation or maintenance of engineering controls, installation or maintenance of equipment, administrative controls, or geological conditions, the mine operator is required to make a record of the evaluation and the date of the evaluation and post the record on the mine bulletin board for the next 31 days.

#### **7. What samplers are approved for the collection of respirable crystalline silica under the new rule? Do I need MSHA approval to use a specific sampling device?**

Mine operators are allowed to use any type of sampling device for respirable crystalline silica sampling that is designed to meet the characteristics for respirable-particle-size-selective samplers that conform to the ISO 7708:1995(E) standard and, where appropriate, meet MSHA permissibility requirements.

You do not need MSHA approval to use a specific sampler provided it conforms to the ISO 7708:1995(E) standard.

#### **8. Do I need to use the same sampler as MSHA when conducting respirable crystalline silica sampling?**

No, you do not need to use the same brand or model of sampler used by MSHA for sampling. However, your samplers must be operated to meet the ISO 7708:1995(E) standard and, where applicable, MSHA's requirements **for permissible use in potentially explosive atmospheres.**

#### **9. Do I need to conduct sampling on every miner at my mine site?**

Where several miners perform the same tasks on the same shift and in the same work area, mine operators may sample a representative fraction (at least two) of these miners. When sampling a representative fraction of miners, mine operators are required to select the miners expected to have the highest exposure to respirable crystalline silica.

Mine operators must ensure that no miner is exposed to an airborne concentration of respirable crystalline silica in excess of 50 micrograms per cubic meters for a full-shift exposure, calculated as an 8-hour TWA (§ 60.10).

When a mine operator elects to engage in representative sampling, the mine operator may take, and submit for analysis, fewer samples. Under this rule, mine operators must assess the typical circumstances of each shift and each miner to identify miners most at risk for overexposure and choose those miners to be "representative" for sampling purposes. This approach allows mine operators to assess the highest likely exposure levels and implement and adjust engineering controls to address the highest likely concentrations of respirable crystalline silica.

**10. If a miner works 10-hour shifts, is 8 hours of sampling sufficient?**

No. Under part 60, the PEL and the action level apply to a miner's full-shift exposure, calculated as an 8-hour TWA. This means that the dust sample for the miner who works 10-hour shifts must be collected for the entire 10 hours.

**11. When I conduct sampling of miners, do I need to sample the same miners for subsequent sampling? Or can I use different miners doing the same job task?**

When a mine operator conducts subsequent exposure monitoring, sampling the same miner is not mandatory. The key is to ensure that the sampled individual is expected to have the highest exposure to respirable crystalline silica and is engaged in work representative of the exposure you are evaluating. For all sampling, where several miners perform the same tasks on the same shift and in the same work area, mine operators may sample a representative fraction (at least two) of miners.

**12. How are samples analyzed for the presence of respirable crystalline silica?**

Mine operators are required to use laboratories accredited to ISO/IEC 17025 to analyze samples for respirable crystalline silica using one of the analytical methods specified by MSHA, OSHA, or NIOSH. The methods used for respirable crystalline silica sample analysis using X-ray diffraction (XRD) include MSHA P-2, NIOSH 7500, and OSHA ID-142. All three methods can distinguish between the three silica polymorphs. The methods used for respirable crystalline silica sample analysis using infrared spectroscopy, particularly Fourier Transform Infrared Spectroscopy (FTIR), include MSHA P-7, NIOSH 7602, and NIOSH 7603.

**13. How do I identify which laboratories are accredited to ISO/IEC 17025 for respirable crystalline silica analysis?**

To identify ISO-compliant laboratories, mine operators can refer to the websites of the accrediting bodies (e.g., AIHA Laboratory Accreditation Program, A2LA), which provide directories of accredited laboratories.

**14. Before the compliance date, can I begin early sampling for my mine?**

The respirable crystalline silica final rule is now in effect and operators can begin early sampling today (i.e., before the compliance dates of April 14, 2025, for coal mine operators and April 8, 2026, for MNM mine operators).

**15. Can samples taken before the compliance date be used to discontinue sampling?**

Yes. Mine operators conducting sampling prior to compliance dates may use those samples to discontinue sampling, provided the samples meet the exposure monitoring requirements in § 60.12 and other relevant provisions of the rule.

For example, suppose an MNM operator starts sampling in September 2024 and collects two consecutive samples below the action level. To demonstrate compliance with the rule in April 2026, the operator must show that the September 2024 samples satisfy the rule's requirements (e.g., the samples must be representative, taken at least seven days and no more than three months apart, recorded, and posted on the mine bulletin board). Also, the operator must show that periodic evaluations conducted between September 2024 and April 2026 indicate no change was reasonably expected to result in new or increased respirable crystalline silica exposures. MSHA inspectors will review records on or after the compliance date to confirm compliance with the rule. These records will be reviewed for each group of miners who perform the same tasks on the same shift and in the same work area.

If an MSHA or operator sample taken after September 2024 is above the action level, the more recent sample

would supersede the September 2024 samples and trigger additional sampling. In that situation, MSHA would not accept the September 2024 samples for compliance in April 2026.

**16. If I begin sampling before the compliance date, do I need to notify MSHA when sampling results are above the PEL?**

No. While notifying MSHA is not required prior to the compliance dates, MSHA encourages mine operators to report overexposures so that MSHA can provide compliance assistance. Additionally, overexposures that occur after two initial samplings below the action level would constitute changed conditions; as a result, MSHA would not accept the two initial sampling results for compliance on or after April 14, 2025, and April 8, 2026, respectively for coal and MNM mine operators.

**17. Before the compliance dates, will MSHA issue citations based on samples taken by operators?**

No. Prior to the compliance dates, MSHA will not issue citations for operator-collected samples that are above the PEL. Rather, MSHA will have compliance assistance resources available to operators.

## **60.13 – Corrective Actions**

**1. Once an overexposure has been identified, what actions must I take?**

Several actions are required when an overexposure has been identified. The mine operator must immediately report the overexposure to the MSHA District Manager or to any other MSHA office designated by the District Manager. The mine operator must make approved respirators available to the affected miners before the start of the next work shift and ensure that the affected miners wear the respirators for the full shift or during the period of overexposure until miner exposures are at or below the PEL. Corrective actions must be taken immediately to lower the concentration of respirable crystalline silica to at or below the PEL. The mine operator must conduct sampling pursuant to § 60.12(b). A corrective action record must be logged, and it should include the corrective actions taken, including any related respirator use by affected miners, and the dates of the corrective actions in accordance with § 60.13(c). All records must be retained for at least 5 years from the date of each sampling, evaluation, or corrective action.

## **60.14 – Respiratory Protection**

**1. What types of respirators are permitted when respirable crystalline silica exposures exceed the PEL under part 60?**

MSHA's final silica rule requires that affected miners be provided with NIOSH-approved air-purifying respiratory protection equipped with particulate protection classified as 100 series or High Efficiency "HE" under 42 CFR part 84.

Elastomeric half and full facepiece respirators are tight-fitting, reusable, air-purifying respirators that can be equipped with 100 series particulate filters. Tight-fitting, disposable, filtering facepiece respirators are also available with 100 series particulate filters. Powered-air purifying respirators (PAPRs) use only High Efficiency "HE" particulate filters which are also permitted under part 60 when respirable crystalline silica exposures exceed the PEL.

In addition, operators can provide to miners NIOSH-approved atmosphere supplying respirators that provide

clean breathing air from a source independent of the work area. Examples include supplied-air respirators (SARs), self-contained breathing apparatus (SCBAs), and combination SAR/SCBA units.

## **2. Are powered air purifying respirators (PAPRs) allowed when respiratory protection is required?**

Yes. PAPRs use only High Efficiency "HE" particulate filters, which are permitted under part 60 when respirable crystalline silica exposures exceed the PEL.

PAPRs used in underground coal mines and in underground gassy metal/nonmetal mines must meet MSHA's permissibility requirements under part 18 of 30 CFR. Mine operators must have a granted petition for modification to use non-permissible PAPRs. Part 44 of 30 CFR sets forth procedures for filing, processing, and deciding petitions filed under Section 101(c) of the Mine Act for modifying applications of any mandatory safety standard to a coal or other mine. MSHA will grant a petition for modification if the agency determines that the requested alternative provides miners at least the same level of protection as the existing standard. Additional information can be found on [MSHA's Petitions for Modifications website](#).

## **3. Can I implement the same written respiratory protection program at all of my mine sites?**

Respiratory protection must be tailored to the mine's specific hazards and conditions. The ASTM F3387-19 respirator selection process involves workplace and user factors that are specific and unique to each workplace. Due to variations in mining processes, geological conditions, and respirable crystalline silica concentrations, the same respiratory protection program may not be suitable between mines.

## **60.15 – Medical Surveillance for Metal and Non-Metal Mines**

### **1. Are all MNM operators required to provide miners the opportunity to have medical examinations?**

Yes. Under § 60.15(b), MNM operators are required to provide all miners employed at the mine with the opportunity to have periodic medical examinations. Miners who are new to the mining industry are required to receive medical examinations as specified under § 60.15(c). All medical examinations are to be provided at no cost to the miner.

### **2. If I hire someone new to the mining industry, how long do I have before their mandatory medical examination must be completed?**

For each miner who begins work in the mining industry for the first time after the compliance date, the MNM mine operator must provide an initial medical examination that meets the requirements in § 60.15(a) no later than 60 days after beginning employment and a follow-up medical examination no later than 3 years after the initial examination. Another follow-up medical examination must be provided by a specialist no later than 2 years after the first follow-up examination, if a chest X-ray shows evidence of pneumoconiosis or the spirometry examination indicates evidence of decreased lung function.

### **3. What will the medical examinations include?**

Medical examinations must include a medical and work history, a physical examination, a chest X-ray, and a pulmonary function test, and must be provided at specified frequencies. Each MNM operator must provide to each miner opportunities for the periodic medical examinations performed by a physician or other licensed health care professional ("PLHCP," e.g., registered nurses) or specialist, at no cost to the miner. Please see § 60.15(a) for specific details for each requirement.

**4. What medical surveillance records will the operator need to maintain for compliance with MSHA’s new silica rule? How long do I need to retain these records?**

The mine operator must obtain a written medical opinion from the PLHCP or specialist within 30 days of the medical examination. The written opinion must contain only the date of the medical examination, a statement that the examination has met the requirements of § 60.15, and any recommended limitations on the miner’s use of respirators. The written opinion must not contain the results of a miner’s medical examinations, chest X-rays, or pulmonary function tests. The mine operator must maintain the record of the written medical opinion received from the PLHCP or specialist for the duration of the miner’s employment plus 6 months.

**60.16 – Recordkeeping Requirements**

**1. What records do I need to maintain in order to be compliant with the final rule?**

**Table 1 – Recordkeeping Requirements**

<b>Record</b>	<b>Standard</b>	<b>Retention Period</b>
Evaluation records	60.12(c)	At least 5 years from date of each evaluation
Sampling records	60.12(g)	At least 5 years from sample date
Corrective actions records	60.13(c)	At least 5 years from date of each corrective action
Written determination records received from a PLHCP	60.14(b)	Duration of miner's employment plus 6 months
Written medical opinion records received from a PLHCP or specialist	60.15(f)	Duration of miner's employment plus 6 months

**Other**

**1. Who can I contact if I have questions about this rule or its implementation?**

If you have any further questions, please contact your local MSHA District Office or the Chief of Health Enforcement.

**2. Will MSHA allow the public to participate in or sit-in on inspector trainings?**

No. MSHA inspector trainings are not open to the public. Once respirable crystalline silica training materials for inspectors are developed, public versions will be made available on the MSHA website. Additionally, MSHA will be releasing new compliance assistance resources for stakeholders in the coming months.

Being from the timber industry it is common for there to be misconceptions in the public about what we do and how our operations effect the community, environment or nature. There are people that disagree with what we do or just don't like the fact that we are operating near them. As a result of this we try to educate the public on what we are doing and try to be a good neighbor to those we operate around. As I got more involved in the mining and quarrying business I realized it is similar to the timber industry.

One important thing that I have found is to be a good neighbor. This can mean many things depending on the situation. Dust control, having trucks watch their speed, limiting the use of jake brakes, and routine road maintenance are just some of the things that help keep the peace in the neighborhood. Also, some neighbors like to be notified before shots so that they are ready for the noise. We had a neighbor that was a frequent caller to our office front desk with various complaints. Many of the complaints were valid and some were a little on the nit-picky side. It was amazing how a few loads of rock on his driveway squelched some of the complaints and put the company in a more positive light, not just at the front desk but with others that he communicated with in the community as well.

Following the rules and regulations of our industry also helps us to stay out of the focus of regulators and keep the industry from getting a black eye. Following BMP's such as those that maintain clean water also keep us in a positive light and hopefully prevents (or slows down) future increased regulation.

Let's do what we can to promote our industry or at least keep the spotlight that is on us in a more positive light, as many of you already are. Crushing rock and operating quarries is an integral part of the lives of OIAA members. Everyone needs aggregate and uses it on a daily basis. We can provide it and hopefully do so in an environmentally friendly, respectful, and neighborly nature.

With that said, look below to find the MSHA FAQ sheet on the new regulation of respirable crystalline silica and what we need to do to follow it. Woohoo!

Erwin Hackett  
OIAA - Chairman  
Roseburg Forest Products

## Scholarship Information



OIAA has awarded two \$2,500.00 scholarship this year. Kiran Staley and Braylin Ruchti

Kiran graduated June 2022 and attended Portland Community College where she was a member of the National Honors Society, on the President list for 3 terms and the Dean's list for one term. Kiran has transferred to Oregon State University this fall to continue a career in Geology.

Braylin is currently a sophomore at Southern Oregon University continuing a career in Civil Engineering as well as continuing on the wrestling team.

We wish both Kiran and Braylin much success in their careers.



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***No meetings are currently scheduled***