

Table 1 – Comparison of Key Provisions in MSHA and OSHA Respirable Silica Regulations

Key Provision – Silica Sampling	MSHA Coal	MSHA Metal/Nonmetal (MNM)	OSHA General Industry
Permissible Exposure Limit (PEL)	When silica content exceeds 100µg/m ³ (0.1 mg/m ³) in a coal dust sample that is analyzed for quartz, MSHA reduces the applicable dust standard (the equivalent concentration) by dividing 10 by the percent of quartz in the sample to arrive at the allowable limit.	Dust exposure limit is determined by dividing 10 by the percent of quartz + 2. An overexposure occurs when the weight of total respirable dust on the filter exceeds the exposure limit determined by the formula above.	The exposure limit is 0.05 mg/m ³ (50 micrograms) as a time-weighted average (TWA) over 8 hours.
Action Level	N/A	N/A	OSHA has an action level, which is 0.025 mg/m ³ (25 micrograms) as an 8-hour TWA. Employers must make medical surveillance available to employees who will be exposed at or above the action level for 30 or more days per year.
Silica sampling	Samples for silica must be collected using a gravimetric sampling device. Continuous personal dust monitors (CPDM) do not collect silica samples. In underground coal, MSHA inspectors (only) collect silica samples quarterly on designated occupations (DO), other designated occupations (ODO), designated areas (DA), and Part 90 miners. In surface coal, inspectors collect DA, designated work positions (DWP), and Part 90 miner samples.	MSHA has not established a formal framework for occupational or area sampling for MNM mine operators to follow. (Regulation says “as frequently as necessary”). However, MSHA inspectors collect samples, but do not follow a schedule that specifies sample collection frequency.	Employers must assess silica exposures for every employee expected to be exposed above action level. If below action level, monitoring may stop. If above action level but below PEL, monitoring must be repeated 6 months later. If above PEL, additional monitoring must be done in 3 months. Employers must reassess exposures when new equipment is introduced, or there’s a change in process, production, equipment or personnel.

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<p>Use of supplement controls – i.e. administrative controls and respiratory protection controls</p>	<p>MSHA requires operators to make respiratory protection available when a valid dust sample exceeds the excessive concentration value, or when an operator receives a citation for an overexposure. Miners are not required to wear respirators, and operators cannot use respirators as a substitute for engineering controls. MSHA cannot credit use of respirators toward achieving compliance with the standard.</p>	<p>Control of miners’ exposure to quartz must be achieved by exhaust ventilation or dilution with uncontaminated air. Also, in locations where silica exposures exceed limits, MSHA allows miners to work for reasonable periods of time if they wear respiratory protective equipment.</p>	<p>OSHA views engineering and administrative controls as equally effective in reducing employees’ exposures to silica. If an employer has used all feasible engineering and administrative controls to manage exposures to silica but fails to achieve compliance, the agency allows employees to wear respirators as part of a respiratory protection program in meeting the permissible exposure limit.</p>
<p>Medical surveillance</p>	<p>Coal mine operators must have approved plan under 42 CFR Part 37. X-rays and pulmonary function tests must be made available to all miners at no cost and must be performed at a NIOSH-approved facility. Medical surveillance is essentially a voluntary program with an initial exam and opportunity for follow up exams (3 years after initial, and 2 years later if evidence of black lung on 2nd exam), and then exams every 5 years thereafter. There are strict confidentiality guidelines. Miners with evidence of black lung disease have an opportunity to transfer to a lower dust occupation with no loss of pay.</p>	<p>N/A. However, MNM mine operators may administer medical surveillance within the workforce.</p>	<p>Upon initial assignment, and thereafter every 3 years, employers must make medical surveillance (x-rays, pulmonary function tests, physical exams) available to employees who are exposed at or above the action level for 30 + days/year. There is no requirement for NIOSH approval of a plan. There are strict confidentiality guidelines. Employees have no job transfer options when there is evidence of lung impairment.</p>