

OSHA PROPOSES REVISED SILICA STANDARD

On September 12, 2013, the Occupational Safety and Health Administration (OSHA) proposed “to amend its existing standards for occupational exposure to respirable crystalline silica.” The proposed standard would alter the regulatory landscape for silica to much more closely resemble the regulations for lead and asbestos. OSHA is currently seeking public comments from interested parties that are due (post-marked, sent, or received) no later than January 27, 2014. A copy of the Federal Register (V. 78, No. 177) can be found on OSHA’s website, www.osha.gov. The text is 200+ pages (400+ in 12-point font). Most of the Federal Register contains documentation of the process of revising the standard. It is the final 25 pages or so that contain the actual standard.

The new standard starts by changing the permissible exposure limit (PEL) from a time weighted average (TWA) exposure level of 100 micrograms ($\mu\text{g}/\text{m}^3$) to 50 $\mu\text{g}/\text{m}^3$. The PEL is the maximum concentration to which an employee is allowed to be exposed, on average, over the course of an 8-hour shift if that employee were not wearing respiratory protection. The proposed standard essentially reduces the PEL by 50%. The proposed standard adds an action-level TWA of 25 $\mu\text{g}/\text{m}^3$. The action level is the threshold at which an employer is required to begin monitoring the atmospheric concentration of respirable silica dust. An employer may rely on existing data to satisfy the requirement for exposure monitoring as long as the existing data is derived from a work process that “closely resembles the prevailing conditions of the work process” and was taken no more than one calendar year prior to the adoption of the proposed standard. This means if the new standard is adopted on June 1, 2014, as it is written, any atmospheric monitoring performed prior to June 1, 2013, would be considered invalid for the purpose of complying with the proposed standard. In some cases, decades of information could be invalidated in one fell swoop!

Much like the asbestos and lead regulations, the proposed silica standard adopts the requirement to perform work in a regulated area or use an access control plan. The regulated area must be clearly demarcated. If employees enter the area, the employer must provide employees respirators, access to atmospheric monitoring data, and protective clothing or a method to clean clothing prior to leaving the regulated area (the regulation also specifically prohibits using compressed air at any pressure to clean clothing). The access control plan option requires many of the same provisions the regulated area option requires without full demarcation of the area where employees are expected to be exposed to silica and requiring communication between contractors at multi-employer workplaces.

The proposed standard contains a very specific methods of compliance section in which an employer can *assume* compliance with the standard if all conditions of the section are met. The conditions in Table A describe various basic functions, provide very specific engineering and work practice controls, and set a minimum respiratory protection requirement.

If an employer is not in compliance with the prescribed engineering and work practice controls in Table A, they must perform atmospheric monitoring to determine the level of exposure and subsequently institute a respiratory protection plan that protects workers accordingly. An employer would also be required to institute feasible work practice and engineering controls even if they don’t effectively reduce the exposure to levels below the PEL, and then provide respiratory protection as a supplement to complete compliance. If the standard is instituted as proposed, every concrete repair contractor will be required to use high-efficiency particulate air (HEPA) vacuum attachments or water-fed dust suppression systems on most of their power tools, regardless if they’re 100% effective. The standard essentially reminds employers to comply with 29CFR OSHA 1926.57 when conducting abrasive blasting operations with silica containing blast media or when blasting substrates that contain silica.

The cleaning methods section of the standard prescribes or prohibits various cleaning methods of “surfaces contaminated with crystalline silica where such activities could contribute to employee exposure to respirable silica that exceeds the PEL.” The two methods the regulation *approves* as suitable cleaning methods are using HEPA filter-equipped vacuuming or wet methods. The three methods of cleaning the standard prohibits are compressed air, dry sweeping, or dry brushing. Remember, the standard only prohibits the activity if it leads to over-exposure of silica. You would still be allowed to use a broom; however, an employer would have to verify through atmospheric monitoring that using a broom to clean up a dusty floor does not exceed the 50 $\mu\text{g}/\text{m}^3$ PEL.

The standard also prohibits employee rotation to comply with any part of the regulation. Employee rotation is the process of changing employees who perform a specific function that exposes them to an atmospheric contaminant greater than the OSHA PEL over an 8-hour period. For instance, if you refer to Table A, an employee does not need respiratory protection if operating a stationary masonry saw with a water-fed dust suppression system for 4 hours or less but does need a half-mask respirator if operating that same saw for more than 4 hours. An employer would be specifically prohibited from changing operators halfway through an 8-hour shift as an alternative to providing respiratory protection.

One could theorize many companies are already in compliance with all or part of the preceding text. Much of the regulation draws on the current OSHA standards and merely reduces the PEL, prescribes some work practice and engineering controls, and reminds an employer to comply with OSHA’s respiratory protection standard 29CFR OSHA 1910.134. The major addition to the standard will require employers to perform medical surveillance on employees exposed to silica concentrations in excess of the PEL for more than 30 days in a calendar year. Essentially, this would include every employee who works on a concrete repair project and may include many Project

TABLE A: SILICA STANDARD METHODS OF COMPLIANCE

Operation	Controls	Required respirator (assigned protection factors in parentheses)	
		≤ 4 hours/day	> 4 hours/day
Using stationary masonry saw	Saw is equipped with integrated water delivery	None	Half-mask (10)
Using hand-operated grinders	Water-fed grinder	None	Half-mask (10)
	Using commercially available grinder with shroud and dust collection	Half-mask (10)	Half-mask (10)
Tuck pointing	Using commercially available grinder with shroud and dust collection	Powered air-purifying respirator [PAPR] (25)	Powered air-purifying respirator [PAPR] (25)
Using jackhammers or impact drillers	Applying a continuous stream of water at point of impact	None	Half-mask (10)
	Using tool-mounted shroud with HEPA filtration	None	Half-mask (10)
Using rotary hammers (except overhead)	Using a drill equipped with hood or cowl and HEPA filtration	None	None
Using vehicle-mounted drilling rig for rock	Dust collection at drill bit; water mist when emptying dust collector	None	None
Using vehicle-mounted drilling rig for concrete	Dust collection at drill bit; water mist when emptying dust collector	None	Half-mask (10)
Milling	Driveable milling machines with water-fed dust suppression system	None	Half-mask (10)
	Walk-behind machine with water-fed dust suppression or HEPA filtration	None	Half-mask (10)
Using handheld masonry saws	Using water-fed dust suppression (outdoors)	None	Half-mask (10)
	Using water-fed dust suppression (indoors or partially sheltered area)	Half-mask (10)	Half-mask (10)
	Using saw with local exhaust dust collection (outdoors)	Half-mask (10)	Half-mask (10)
	Using saw with local exhaust dust collection (indoors or partially sheltered area)	Full facepiece (50)	Full facepiece (50)
Using portable walk-behind or driveable masonry saw	Water-fed dust suppression at the point of cut (outdoors)	None	None
	Water-fed dust suppression at the point of cut (indoors or partially sheltered area)	Half-mask (10)	Half-mask (10)
Drywall finishing (with silica-containing material)	Using pole or hand sander equipped with dust collection system	None	None
	Using wet methods to sand or smooth drywall	None	None
Use of heavy earth moving equipment	Operating from an enclosed cab with air conditioning and HEPA intake filter	None	None

Managers and higher-level supervisors who visit projects. The medical surveillance, which must be performed by a prescribed licensed health care provider (PLHCP), includes a baseline (initial) physical examination within 30 days of initial assignment. The physical must include a medical and work history for the employee, a physical examination “with special emphasis on the respiratory system,” a chest X-ray, a pulmonary function test, testing for latent tuberculosis infection, and any other tests deemed appropriate by the physician. Periodic follow-up physicals would be required to be performed at intervals no less than 3 years apart. The standard sets forth requirements with which a physician must comply to be considered a PLHCP.

The final two parts of the proposed regulation cover employee training and recordkeeping. Not to diminish those two aspects of the regulation, but they are fairly in line with

what OSHA normally writes into their modern standard promulgations to train employees in the nature of the hazard and methods of protection and keep very detailed impeccable records of atmospheric testing, medical surveillance, and objective data for a long time.

As previously stated, OSHA is seeking public comment on the proposed standard. Electronic submissions can be made at www.regulations.gov. Mailed or hand-delivered comments can be sent to the OSHA Docket Office, Docket No. OSHA-2010-0034, U.S. Department of Labor, Room N-2625, 200 Constitution Ave NW, Washington DC 20210.

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