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**How Will OSHA's  
Crystalline Silica Rule  
Affect Construction  
and General Industry  
Employers?**

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# How Will OSHA's Crystalline Silica Rule Affect Construction and General Industry Employers?

**C**rystalline silica ("silica") is a mineral found in materials used in industrial products and at construction sites, such as sand, concrete, stone, and mortar. Silica is also used in the manufacturing of glass, pottery, ceramics, bricks, concrete, and artificial stone. Medical studies have concluded that inhalation of silica can cause silicosis, a lung disease marked by scarring of the lungs, and increases the risk of lung cancer, COPD, and kidney disease.

Exposure to silica is widespread in the construction and maritime industries, and in numerous general industry sectors including, but not limited to: foundries, railroads, fracking, and manufacture of glass, concrete, asphalt, and artificial stone products.

**OSHA estimates that 2.3 million workers annually are exposed to silica in the workplace, and approximately 2 million of these workers are in the construction industry.**

Federal regulations governing silica exposure have been in place since 1971 when the Occupational Safety and Health Administration ("OSHA") set permissible exposure limits ("PELs") for silica exposure in general industry and construction/shipyards.

However, the final silica rule published by OSHA on March 25, 2016 (81 FR 16286) significantly increases the protections in place for employees exposed to silica in the workplace, and imposes new and substantial obligations on employers.

The final silica rule, which was effective on June 23, 2016, creates two separate standards addressing occupational exposure to silica – one for exposure in general industry and maritime, and another for exposure

in the construction industry.

The two separate standards were promulgated in order to accommodate the different activities, exposures, and conditions within the two sectors. OSHA estimates that 2.3 million workers annually are exposed to silica in the workplace, and approximately 2 million of these workers are in the construction industry.

OSHA also estimates that implementation of the final silica rule will prevent over 640 fatalities and over 900 moderate-to-severe silicosis cases annually, and that the cost to implement the final rule will be \$1 billion annually.

## Requirements Imposed by the New Regulations

The most significant change of the final silica rule is the revised PEL for silica. The prior PELs for silica were equivalent to approximately 100 micrograms of silica per cubic meter of air ( $\mu\text{g}/\text{m}^3$ ) for general industry and 250  $\mu\text{g}/\text{m}^3$  for construction and shipyards. OSHA set the new silica PEL at 50  $\mu\text{g}/\text{m}^3$  as an eight-hour time-weighted average for all industries covered by the new regulations. Therefore, under the new rule, exposure to silica over an eight-hour work shift can fluctuate, but the average exposure must not exceed 50  $\mu\text{g}/\text{m}^3$ . While OSHA believes there is still significant risk with the new 50  $\mu\text{g}/\text{m}^3$  PEL, OSHA concluded that it was the lowest level of exposure that was technologically feasible.

Although the PEL is the same for both general industry and the construction industry under the new regulations, the approach to compliance differs significantly. For both the general industry/maritime and construction rules, the applicability of the final silica rule is triggered by worker exposure to silica at or above a 25  $\mu\text{g}/\text{m}^3$  "action level," averaged over an eight-hour day.

However, in response to numerous comments from the construction industry, OSHA adopted Table 1 of the new rule which identifies applicable engineering controls and work practices for 18 common construction tasks. As one example, Table 1 requires employees using hand-held power saws (any blade diameter) to use a saw equipped with an integrated water delivery system that continuously feeds water to the blade, and to operate and maintain the saw in accordance with the manufacturer's instructions for minimizing dust emissions.

Construction employers who properly implement the applicable controls listed in Table 1 for a specific task are not required to perform a silica exposure assessment and are not subject to the silica PEL for that task. However, if the employer does not properly implement the controls in Table 1, the silica PEL applies for that task and the employer must assess and limit its employees' silica exposure in accordance with the PEL.

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## OSHA

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By contrast, employers who are potentially subject to the general industry/maritime rule must perform an exposure assessment using either a performance option or scheduled monitoring option. The performance option is based on any combination of air monitoring data or objective data that is sufficient to accurately characterize employee exposure.

The scheduled monitoring option provides a more structured approach and requires initial monitoring to determine employee exposure. Under either approach, the employer must assess the exposure of each employee who is or may reasonably be expected to be exposed to silica at or above the  $25 \mu\text{g}/\text{m}^3$  action level. If the action level is triggered, employers must meet the PEL and demonstrate compliance.

In some circumstances, employers are required to supplement the controls with respiratory protection. For example, Table 1 provides that construction employees using a hand-held power saw must comply with the respiratory protection requirements when using the tool indoors or outdoors for more than four hours in a shift.

The final silica rule also requires that medical surveillance be made available to

employees who are required to wear a respirator for 30 or more days per year or who are exposed to silica above the PEL for 30 or more days per year (and beginning on June 23, 2020, medical surveillance must be offered to employees exposed above the action level for 30 or more days per year).

The results of medical surveillance are to be provided to the employee only, although the employer will receive the physician or licensed health care professional's recommended limitations on respirator use.

### **The final silica rule requires employers in general industry, maritime, and construction to develop a written exposure control plan.**

Sometimes a task in general industry or maritime may be the same as a task performed in the construction industry. In certain circumstances, the final silica rule allows employers in general industry and maritime to comply with the standard for construction.

Thus, if the engineering and work practic-

es in Table 1 are implemented for that task, the PEL does not apply. However, the task performed must be indistinguishable from the construction task and must not be performed regularly in the same environment and conditions.

The final silica rule requires employers in general industry, maritime, and construction to develop a written exposure control plan. The written plan must describe the methods used to identify and control workplace exposures. Under the construction standard, a designated individual who is capable of identifying silica hazards and who possesses the authority to take corrective measures must implement the exposure control plan.

The final silica rule also requires employers in general industry and maritime to establish "regulated areas" in order to limit access to areas where exposure to silica exceeds the PEL.

The standard for construction does not include a requirement for regulated areas, but the written exposure control plan must include procedures to restrict access to work areas, whenever necessary, to minimize exposure to silica.

The new regulations establish a hierarchy of controls that employers must implement to reduce and maintain exposure to silica to levels below the PEL. The primary means of reducing exposure are engineering and work practice controls.



## Deadlines for Employers to Comply

All obligations for compliance under the general industry and maritime standard commence on June 23, 2018 (two years after the effective date of the rule), with two exceptions. For hydraulic fracturing operations, the obligation for engineering controls commences five years after the effective date.

Also, the requirement for employers to offer medical surveillance commences two years after the effective date (June 23, 2018) for employees exposed above the PEL for 30 or more days per year, and four years after the effective date (June 23, 2020) for those exposed at or above the action level for 30 or more days per year.

All obligations for compliance under the construction standard commence on June 23, 2017 (one year after the effective date), with one exception. The requirements for laboratory analysis commence two years after the effective date. OSHA anticipates that most construction employers will forgo the exposure assessment process and comply with the Table 1 control methods.

## Enforcement of the Final Silica Rule

Commenters to the silica rule also called on OSHA to include a separate enforcement mechanism for employer retaliation if an employee accepts medical surveillance. Despite criticism of the enforcement options available under Section 11(c) of the OSH Act (29 U.S.C. § 660(c)), which pro-

hibits discrimination against an employee for exercising rights afforded by the OSH Act and regulations, OSHA declined to include any separate enforcement option.

OSHA's new civil penalty policy took effect in August 2016, and increased the maximum penalties for most violations from \$7,000 per violation to \$12,471 per violation (and made the same adjustment to daily penalties imposed for failure to abate a violation). Maximum penalties for willful or repeated violations have also been increased from \$70,000 to \$124,709 per violation. Any violations of the new silica regulations will be subject to the increased penalty amounts.

In the preamble and guidance documents addressing the final silica rule, OSHA encourages employers to take advantage of OSHA's On-Site Consultation Program, which provides free and confidential consultation services to small and medium-sized businesses.

## Status of the Final Silica Rule

Numerous petitions for review of the final silica rule have been filed. Groups representing employers and manufacturers believe that compliance with the previous silica standard is sufficient and that the new regulations are unnecessary.

These groups also argue the economic and technical feasibility of the requirements under the new regulations, stating that the new rule places undue burdens and irreparable harm on manufacturers. On the other hand, petitions for review filed by labor groups seek a more stringent standard with stronger medical surveillance and protections for workers.

In addition to legal challenges, industry groups have met with lawmakers to attempt to mount a challenge to the new regulations. The groups have urged lawmakers to support language that would prohibit funding the implementation of the final silica rule until additional studies are completed. At this point, the compliance deadlines are unchanged. However, employers should monitor these challenges as their outcomes may have an effect on the final regulations.

The recently-enacted regulations governing exposure to respirable crystalline silica significantly increase the protections afforded to employees. Whether or not these protections are necessary, or technically or economically feasible, is still up for debate. Nevertheless, employers in general industry, maritime, and construction should closely examine the new regulations in preparation for the upcoming June 23, 2017 and June 23, 2018 compliance deadlines. ■

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