



Workplace Safety

OSHA Readiness: New Silica Standard Is About to Go Into Effect

Gillian Scott | May 31, 2018

What You Need to Know

When materials with silica—such as sand, stone, concrete and mortar—are cut, sawed, ground, drilled or crushed, the fine particles can be inhaled and cause serious and sometimes life-threatening diseases. New respirable silica rules for general industry and maritime will go into effect June 23, 2018. Workplace practices described in Table 1 of the silica standard for the construction industry can also be used by facilities in general industry and maritime to avoid other exposure monitoring, engineering, and work practice control requirements. More general housekeeping and workplace practices address other ways employees can reduce their exposure to respirable silica.

New rules from the Occupational Safety and Health Administration (OSHA) for silica exposure went into effect for the construction industry in September 2017. Now, it's general industry and maritime's turn: On June 23, 2018, those industries will need to start following a new standard as well. Here's what you need to know to prepare for compliance.

What Is Silica and Respirable Crystalline Silica?

Silica is a common mineral found in materials like sand, stone, concrete and mortar. When these materials are cut, sawed, ground, drilled or crushed, the fine particles created become respirable—they can be inhaled. Workers exposed to respirable crystalline silica can develop serious and sometimes life-threatening diseases such as silicosis, lung cancer, chronic obstructive pulmonary disease (COPD) and kidney disease.

OSHA Standard 1926.1153, Respirable Crystalline Silica, which went into effect in September, covers construction activities. The standard going into effect in June, **OSHA Standard 1910.1053**, Respirable Crystalline Silica, covers general industry and maritime activities. Both standards establish permissible exposure limits to silica and exclude tasks where exposures do not reach a certain amount over an eight-hour time-weighted average.

“Employers must use engineering and work practice controls to reduce and keep employee exposure to respirable crystalline silica to or below the PEL of 50 µg/m³, unless the employer can demonstrate that such controls are not feasible,” reads OSHA’s *Small Entity Compliance Guide for the Respirable Crystalline Silica Standard for General Industry and Maritime*. “If feasible engineering and work practice controls are not able to reduce employee exposures to or below the PEL, employers must still use feasible controls to reduce exposures to the lowest possible level and then use respiratory protection along with those controls.”

Both standards require workplaces to create written exposure control plans and to offer medical exams every three years to workers who need to wear a respirator for 30 or more days a year (for employees exposed to more than the action level of silica in the general industry and maritime standard and for all employees for the construction standard). Training and record-keeping requirements are also similar.

Need a deeper understanding of how to comply with the silica standard? Dive into the article and video webinar “OSHA’s Silica Exposure Enforcement: Are You Ready?” for guidance from industrial hygienist Don Garvey of 3M.

Understanding Table 1: What Are the Differences in OSHA’s Silica Standards?

There are some other differences between the standards, though.

“The silica standard for general industry and maritime is similar to other contaminant-specific standards, focusing on the exposure rather than the task,” Honeywell notes in a *safety guide*. “When reviewing silica exposure in the construction industry, OSHA identified application groups based on construction activities, tasks or equipment that are commonly recognized to create silica exposures.”

The construction standard has a table—Table 1—that describes “specific exposure control methods for specific tasks and types of equipment,” writes Jennifer Busick in *EHS Daily Advisor*. “Employers that comply with these alternative exposure control methods are exempted from the standard’s other exposure monitoring, engineering, and work practice control requirements.”

Facilities in general industry or maritime can also use the methods in the table to reduce exposure to respirable silica if their workers engage in tasks “indistinguishable” from the 18 tasks described in the table, says OSHA.

For instance, according to the table, when handheld power saws are used with an integrated water delivery system that continuously feeds water to the blade and the saw is operated in accordance with manufacturer’s instructions to minimize dust emissions, the saw may be used outside without respiratory protection for less than four hours a shift. When used outdoors for more than four hours a shift, ***respiratory protection*** with an assigned protection factor of 10 must be used. When used indoors or in an enclosed area, respiratory protection with an APF 10 must be used at all times.

Need Help with the Upcoming Silica Standard?

The Occupational Safety and Health Administration offers a free on-site consultation program to small- and medium-sized businesses. Consultants, OSHA says, “work with employers to identify workplace hazards, provide advice for compliance with OSHA standards, and assist in establishing and improving safety and health programs.”

The results of consultations are not reported to OSHA inspection staff, and citations and penalties are not issued, though employers are required to correct serious job safety and health hazards within a certain timeline.

Learn more about the consultation program [here](#).

Need help with respirators? Explore our comprehensive respiratory protection options.

The Benefits of Complying with Table 1 and Specific Workplace Practices in the Silica Standard

Table 1 is a “flexible compliance option,” according to OSHA. “Employers who fully and properly implement the engineering controls, work practices, and respiratory protection specified for a task on Table 1 are not required to measure respirable crystalline silica exposures to verify that levels are at or below the PEL for workers engaged in the Table 1 task,” OSHA says on its [silica FAQs page](#).

Other workplace practices are also recommended outside of the table. The *Small Entity Compliance Guide* provides examples:

- Inspecting and maintaining controls to prevent or fix problems that could result in increased dust exposure
- Making sure sprayers used with tools are aimed at the right spot (the point of dust generation)
- Making sure local exhaust hoods are positioned directly over the exposure source
- Making sure windows are closed near local exhaust sources
- Scheduling work so that tasks that create the most dust are done when other employees are not in the area

“Employers who fully and properly implement the engineering controls, work practices, and respiratory protection specified for a task on Table 1 are not required to measure respirable crystalline silica exposures to verify that levels are at or below the PEL for workers engaged in the Table 1 task.”

OSHA

The Occupational Safety and Health Administration

Beyond the workplace practices outlined in Table 1, Standard 1910.1053 also outlines *housekeeping measures* designed to reduce the exposure to respirable silica:

- Using wet sweeping, HEPA-filtered vacuuming or other methods where possible, minimizing the use of dry sweeping or dry brushing
- Not allowing the use of compressed air to clean clothing or surfaces unless the compressed air is used with a ventilation system able to capture the dust cloud or unless no other method is

feasible

The **Center for Construction Research and Training** also identifies ways for employees to reduce exposure to silica. These include wearing disposable or washable work clothes; showering if facilities are available; vacuuming dust from clothes and changing before leaving the work site so dust isn't brought home; not eating, drinking or smoking in areas where silica dust is present; and washing hands and face away from dusty areas before eating, drinking or smoking.

The updates to the silica standards will require changes to many workplace exposure control plans, says Karen D. Hamel, CSP, WACH, a regulatory compliance professional, trainer and technical writer for **New Pig**. "Like most safety plans, employers may choose the methods, procedures, controls and products that they will use to prevent exposure and minimize risk. The facility's written crystalline silica exposure control plan must identify all tasks that expose workers to silica hazards and detail the procedures that will be used to protect workers from overexposure."

Is your facility ready to implement the new silica standards? Share your situation.

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