OSHA’s Silica Rule: General Industry vs. Construction

OSHA’s crystalline silica rule has been finalized. There are separate requirements for general industry/maritime and construction.

**First, How Do You Become Exposed to Silica?**

Crystalline silica can cause respirable and kidney disease and some cancers. Crystalline silica is a basic component of sand, soil, granite and many minerals. Common forms include quartz, cristobalite and tridymite. It becomes respirable when it is cut, ground, drilled or chipped.

In general industry and maritime, silica is associated with industries such as concrete and ready-mix concrete products, cut stone, foundries, support for oil and gas operations, railroads, asphalt roofing materials, jewelry, dental labs, porcelain enameling, shipyards, structural clay and pottery.

In construction, silica exposures come with working with materials containing silica. Grinding, drilling, sawing, cutting or chipping concrete, stone, cement or cement fiberboard would all be examples of potential silica exposures.

**Requirements Applicable to All**

*29 CFR 1910.1053 and 1926.1153*

The general industry/maritime and the construction regulations share some requirements including:

* **Written Exposure Control Plan** — Your company must prepare and implement a written exposure control plan that identifies tasks which could create exposures and the methods your company will use to protect workers.
* **Housekeeping** — Housekeeping practices such as dry sweeping, dry brushing, and the use of compressed air (unless used in conjunction with a ventilation system) which expose workers to silica where feasible alternatives are available is not allowed.
* **Training** — Worker training in silica exposure is required. Workers must be able to demonstrate: knowledge of hazards, specific tasks which could cause exposures, the employer’s methods of controlling exposures, information from the silica standard and the purpose and description of the medical surveillance program. To help document demonstration of knowledge, you may want to give a quiz.
* **Recordkeeping** — Your company must keep detailed records of silica exposure and medical exams on file. For general industry/maritime, it’s all detailed exposure sampling records. How your company chooses to comply with the standard will determine which records you keep.

**General Industry/Maritime-Specific Requirements**

*29 CFR 1910.1053*

General Industry/Maritime requirements are more geared toward proving silica exposures are occurring below certain levels and thus there is more of a sampling focus.

***Exposure Sampling***

Employers must conduct exposure monitoring for silica if the potential for exposure could be at or above an action level of 25 µm3 (micrograms per cubic meter of air), averaged over an 8-hour day. The maximum limit, also known as the permissible exposure limit (PEL) is 50 µm3,averagedover an 8-hour day (the old PEL was 100 µm3). If your workers’ exposures are above the PEL, your company must take measures to protect workers from exposure.

Affected employees must be notified, in writing, of assessment results and what’s being done to control exposures. If results are above the action level but below the PEL, sampling will need to occur every 6 months until exposures are below the action level for 2 consecutive measurements. If results are above the PEL, sampling will need to occur every 3 months until exposures are below the *action* level for 2 consecutive measurements.

Unless the potential for silica exposure is 0%, if there’s even a slight potential for silica exposures, it’s best to conduct the sampling to know exactly what your exposure levels are for documentation purposes. Documentation of your exposure assessment is very important for your recordkeeping files and shows due diligence with the standard.

Anytime a process or change occurs in the facility, monitoring must be conducted again.

***Other Requirements***

* **Dust Controls** — Dust controls need to be used to protect workers from exposures above the PEL. In most cases, wet methods and ventilation can be used to aid in this. Again, your exposure sampling will be able to tell you how well your dust controls are working.
* **Respirators** — When dust controls don’t keep exposures below the PEL, respirators are required.
* **Medical Exams** — Medical exams including chest X-rays and lung function tests must be offered to workers exposed at or above the action level (25 µm3) for 30 or more days per year. These must be offered every 3 years.
* **Warning Signs** — Warning signs must be posted at entrances to areas where exposures above the PEL may occur.

***Compliance Deadlines***

Employers must comply with all requirements of the standard by June 23, 2018 with some exceptions for medical surveillance and hydraulic fracturing.

Medical surveillance for those exposed above the PEL (50 µm3) for 30 or more days must be offered to employees starting June 23, 2018. Medical surveillance for those exposed above the action level (25 µm3) for 30 or more days starting June 23, 2020.

Hydraulic fracturing operations in the oil and gas industry must implement their engineering controls to limit exposures to the new PEL by June 23, 2021. Significant efforts are currently being made to develop effective dust control technologies specifically for this industry. Many of these are in development and have demonstrated promise. Although some are commercially available, many are still in development and those available now have not been widely implemented yet. The potential effectiveness of these controls is why OSHA has given some extra time for this industry for development and implementation.

**Construction-Specific Requirements**

*29 CFR 1926.1153*

Construction requirements are more geared toward methods of controlling exposures.

***Table 1***

The construction standard has a table of common construction tasks and the instructions on how to control dust for each. This is referred to as Table 1. As long as your company is following the actions required of Table 1, your company will not be required to conduct sampling and won’t be subject to the PEL requirement.

Please note that some of the instructions in Table 1 require workers to wear respirators. If your workers currently do not wear respirators, use of respirators will trigger the need to comply with 29 CFR 1910.134 for use of respirators. This would include developing a written respiratory protection program, annual respirator physicals, annual respirator training and annual respirator fit-testing.

[Download Table 1]

***What if You Don’t Want to Follow Table 1?***

Employers who choose not to follow the guidance of Table 1 will then be subject to the requirements of the action level and the PEL. This triggers the additional sampling and monitoring requirements that the general industry standard requires.

Employers will need to conduct exposure monitoring for silica if the potential for exposure could be at or above an action level of 25 µm3 (micrograms per cubic meter of air), averaged over an 8-hour day. The PEL is 50 µm3,averagedover an 8-hour day (the old PEL for construction was 250 µm3).

Affected employees must be notified in writing of assessment results and if it’s above the PEL, the notification will need to include what’s being done to control exposures. If results are above the action level but below the *PEL*, sampling will need to occur every 6 months until exposures are below the *action* level for 2 consecutive measurements. If results are above the PEL, sampling will need to occur every 3 months until exposures are below the *action* level for 2 consecutive measurements.

Unless the potential for silica exposure is 0%, if there’s even a slight potential for silica exposures, it’s best to conduct the sampling to know exactly what your exposure levels are for documentation purposes. Documentation of your exposure assessment is very important for your recordkeeping files and shows due diligence with the standard.

Anyone above the PEL and not using Table 1 must take measures to protect workers from exposure. Dust controls need to be used to protect workers from exposures above the PEL. When dust controls don’t work, respirators are required.

***Other Requirements for Construction***

* **Medical Exams** — Medical exams that include chest X-rays and lung function tests must be offered to workers who are required by the standard to wear respirators for 30 or more days per year. These exams must be offered every 3 years.
* **Competent Person** — Your company will need to designate a competent person to implement the your written exposure control plan.
* **Restricted Access** — Procedures for how your company will restrict access to work areas where high exposures may occur must be included in your written exposure control plan.

***Compliance Deadlines***

Employers must comply with all requirements of the standard by June 23, 2017. If your company chooses to use exposure sampling and laboratory analysis, then the compliance deadline for laboratory evaluation of exposure samples is June 23, 2018.

**Now What? How Can iSi Help You With This Standard?**

iSi is here to help your company comply with this new standard. We can assist with:

* **Compliance Determinations, Audits and Checklists** – Helping you determine if this standard applies to you, evaluating your site for exposure potential, determining areas needing warning signs or restricted access, and making a compliance checklist for you
* **Exposure Sampling** – Sampling your facility or construction sites for exposure levels, arranging for lab analysis of samples, preparing documentation for recordkeeping, and preparing your written employee notices
* **Written Program Development** – Preparing your exposure control plan or respiratory protection program
* **Training** – Silica training and respiratory protection training
* **Respirator Fit-Testing** – Annual respirator fit-testing (after your medical surveillance is complete)
* **Answering Questions** – Our safety and industrial hygiene experts on-staff can help you with any other questions you may have.