

OSHA'S New Crystalline Silica Standard (North America)

What is Respirable Crystalline Silica?

Crystalline silica is a common mineral that is found in construction materials such as sand, stone, concrete, brick, and mortar. When these minerals undergo a construction or manufacturing process whereby the material is poured, mixed, blended, cut, grinded, blasted, drilled, crushed or otherwise disturbed, very small dust particles which contain silica dust are created. These tiny particles (known as "respirable" particles) can travel deep into workers' lungs and cause silicosis, an incurable and sometimes deadly lung disease. Respirable crystalline silica also causes lung cancer, other potentially debilitating respiratory diseases such as chronic obstructive pulmonary disease, and kidney disease. In most cases, these diseases occur after years of exposure to respirable crystalline silica.

Some examples of materials that are commonly involved under this standard include sand, clay, concrete, asphalt, brick, cement, stone, drywall, tile, grout and mortar.

What you need to know about OSHA'S New Silica Standard.

OSHA's new standards for silica in the workplace significantly reduce the permissible exposure limits (PEL). OSHA is reducing the permissible exposure limit to crystalline silica to **50 micrograms per cubic meter of air over 8 hours**. With this latest change, the organization wants to help companies nationwide save over 600 lives and \$8 billion in associated costs.

The Crystalline Silica Standard 29 CFR 1926.1153 requires employers to limit worker exposures to respirable crystalline silica and to take other steps to protect workers. Employers can either use a control method as designated by OSHA, or they can measure their workers' exposure to silica and independently decide which dust controls function best to limit exposures in their workplaces to the permissible exposure limit (PEL).

Crystalline Silica Standard 29 CFR 1926.1153 applies to all exposures of respirable crystalline silica, except where exposure will stay below the OSHA action level of **25 micrograms per cubic meter of air over 8 hours**.

Control Method versus Customized Exposure Solutions

- This allows for employer the customization and flexibility to best protect their employees and provide for continuous process improvement
- Protect workers from respirable crystalline silica exposures above the PEL of 50 µg/m³, averaged over an 8-hour day
- Use strategic dust controls and safer work methods to protect workers from silica exposures above the PEL
- Provide respirators to workers when dust controls and safer work methods cannot limit exposures to the PEL.

Compliance Dates for New Silica Standard

Depending on your industry, you will have to comply with OSHA's new silica standard by a certain date:

- Construction – September 23, 2017
- General Industry and Marine – June 23, 2018

Additional requirements of OSHA standard

- Establish and implement a written exposure control plan that identifies tasks that involve exposure and methods used to protect workers, including procedures to restrict access to work areas where high exposures may occur.
- Designate a competent person to implement the written exposure control plan.



SUSTAINABLE SOLUTIONS

- Restrict housekeeping practices that expose workers to silica, such as use of compressed air without a ventilation system to capture the dust and dry sweeping, where effective, safe alternatives are available.
- Offer medical exams—including chest X-rays and lung function tests—every three years for workers who are required by the standard to wear a respirator for 30 or more days per year.
- Train workers on the health effects of silica exposure, workplace tasks that can expose them to silica, and ways to limit exposure.
- Keep records of workers' silica exposure and medical exams.

How JOA can help your company to best meet the new OSHA Silica Standard?

JOA's goal is to provide our customers with a strategic, cost-effective emissions control upgrade which meets their needs for worker protection, process cleanliness and long-term sustainability. We have installed over 450 installations to date with the most recent achieving the target PEL of 25 µg/m³ for several of our 'Silica Processing' customers. The customer and their employees were thankful to JOA as our systems did what they were designed to do.

Whatever your emissions challenge, JOA North America will work to provide a Total Environmental Solution.

Please contact us at info@joa-nam.com or call +1 (704) 523-0777 so we may assist you in achieving your goals for your facility.

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