



**NPCEA**

Precast ... The Concrete Solution

# OSHA Final Rule: Occupational Exposure to Respirable Crystalline Silica

- **OSHA has amended its existing standards for occupational exposure to respirable crystalline silica. They have determined that employees exposed to respirable crystalline silica at the previous permissible exposure limits face a significant risk of material impairment to their health.**

# Disclaimer:

As a committee of a national organization, the Safety, Health & Environmental Committee of NPCA must reference federal standards. However, users of this information are informed that state and local agencies may have more stringent standards than those cited here. It is the users responsibility to ensure that the federal standards referenced herein are applicable in their locale. If more stringent standards apply locally, you must adhere to those local requirements.

# Definitions:

- Crystalline Silica - A common mineral found in many naturally occurring materials and used in many industrial products. Sand, concrete, stone, mortar, glass, pottery, ceramics, bricks containing crystalline silica.
- Respirable - Particles in the air able to be breathed in.
- P.E.L. - Permissible Exposure Limit
- Competent Person – An individual who is capable of identifying existing and foreseeable respirable crystalline silica hazards in the workplace and who has authorization to take prompt corrective measures to eliminate or minimize them.

# Definitions:

- Employee Exposure - The exposure to airborne respirable crystalline silica that would occur if the employee were not using a respirator.
- High-Efficiency Particulate Air (HEPA) Filter - A filter that is at least 99.97 percent efficient in removing mono-dispersed particles of .3 micrometers in diameter.
- Exposure Assessment - The employer shall assess the exposure of each employee who is or may reasonably be expected to be exposed to respirable crystalline silica.

# What are the Hazards of Crystalline Silica?

- Crystalline Silica has been classified as a human lung carcinogen. Additionally, over time breathing silica dust can cause silicosis, which in severe cases can be disabling, or even fatal. The respirable silica dust enters the lungs and causes the formation of scar tissue, thus reducing the lungs' ability to take in oxygen. There is no cure for silicosis. Silica exposure also puts workers at a higher risk for developing lung cancer, respiratory diseases, and kidney disease. In addition, smoking causes lung damage and adds to the damage caused by breathing silica dust.

# What does the Standard Require?

## Construction Standard

- The standard requires employers to limit worker exposures to **respirable crystalline silica** and to take other steps to protect workers.
- 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.
- Restrict **housekeeping** practices that expose workers to silica where feasible alternatives are available.

# Construction Standard Cont.

- 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 work operations that result in silica exposure and ways to limit exposure.
- **Keep records** of workers' silica exposure and medical exams.

# What does the Standard Require?

## General Industry Standard

- Measure the amount of silica that workers are exposed to if it may be at or above an action level of 25  $\mu\text{g}/\text{m}^3$  (micrograms of silica per cubic meter of air), averaged over an 8-hour day.
- Protect workers from respirable crystalline silica exposures above the permissible exposure limit of 50  $\mu\text{g}/\text{m}^3$ , averaged over an 8-hour day.
- Limit workers' access to areas where they could be exposed above the PEL.
- Use dust controls to protect workers from silica exposures above the PEL.
- Provide respirators to workers when dust controls cannot limit exposures to the PEL.

# General Industry Standard Cont.

- Restrict housekeeping practices that expose workers to silica where feasible alternatives are available.
- Establish and implement a written exposure control plan that identifies tasks that involve exposure and methods used to protect workers.
- Offer medical exams — including chest X-rays and lung function tests — every three years for workers exposed at or above the action level for 30 or more days per year.
- Train workers on work operations that result in silica exposure and ways to limit exposure.
- Keep records of workers' silica exposure and medical exams.

# How Does This Effect The Precast Industry?

- Our industry is effected by both the General Industry and Construction Standard.
- Management must be educated in both standards and we must ensure our employee's are educated in the effects of respirable crystalline silica.
- Employers must use engineering controls and work practices as the primary way to keep exposures at or below the PEL. Engineering controls include wetting down work operations or using exhaust ventilation (or vacuums) to keep silica-containing dust out of the air and out of workers lungs.
- Respirators are only allowed when engineering and work practice controls cannot maintain exposures at or below the PEL.

# General Industry Compliance Dates

- Employers are required to comply with all obligations of the standard, with the exception of the action level trigger for medical surveillance, by June 23, 2018.
- Employers are required to offer medical examinations to employees exposed above the PEL for 30 or more days a year beginning on June 23, 2018.
- Employers are required to offer medical examinations to employees exposed at or above the action level for 30 or more days a year beginning on June 23, 2020.

# Construction Compliance Dates

- Employers are required to comply with all obligations of the standard (except methods of sample analysis) by June 23, 2017.
- Employers are required to comply with methods of sample analysis by June 23, 2018.

# Additional Information

- OSHA's silica rule can be found at: [www.osha.gov/silica](http://www.osha.gov/silica).
- OSHA On-site Consultation Program:  
[www.osha.gov/dcsp/smallbusiness](http://www.osha.gov/dcsp/smallbusiness).
- Regulatory text for construction standard, with complete Table 1:  
[www.osha.gov/silica/SilicaConstructionRegText.pdf](http://www.osha.gov/silica/SilicaConstructionRegText.pdf)