



OSHA's Final Rule on Occupational Exposure to Respirable Crystalline Silica

By Kellie Vazquez



On March 24th, 2016, the Occupational Safety & Health Administration (OSHA) released a 1,772-page Final Rule on respirable crystalline silica. The Final Rule is written as two standards, one for industry and maritime and one for construction. Employers under industry and maritime have until June 23rd, 2018 to comply while employers under construction have only until June 23rd, 2017 to comply.

Silica is the second-most common mineral found in Earth's crust. Crystalline

silica is a common mineral found in many naturally-occurring materials and used in many industrial products and construction sites. Materials like sand, concrete, stone and mortar contain crystalline silica. Respirable crystalline silica is generated by operations like cutting, sawing, grinding, drilling and breaking concrete, rock, brick and block. Exactly what many of us contractors do every day.

When any of the above operations are performed without administrative and engineering controls, the hazard of

respirable silica exists for workers. Silicosis is a disease of the lungs caused by the chronic inhalation of silica dust. There are three types of silicosis: chronic, accelerated and acute. Chronic silicosis, the most common form of the disease, usually develops after 10 or more years of exposure to relatively low dust concentrations. Accelerated silicosis results from exposure to high concentrations of silica over a 5- to 10-year period. Acute silicosis is a rare but highly fatal disease caused by brief but massive exposure to dust with high quartz content.

OSHA states that this rule is necessary because the current permissible exposure limit (PEL) for silica is outdated, inconsistent and not adequate to protect worker's health. This statement has been made even though the mortality rate has dropped by 93% between 1968 and 2002 according to the Centers for Disease Control and Prevention (Bang KM, Mazurek JM. Silicosis mortality, prevention, and control—United States, 1968–2002. *MMWR: Morbidity and Mortality Weekly Report*. 2005;54 (16):401–5. [PubMed]). How can it be determined that current deaths from silicosis are not from over exposure to crystalline silica at the current PEL? OSHA has not enforced the current PEL and has not proven that the current PEL is not protective.

CSDA has been part of a construction industry-wide group called the Construction Industry Safety Coalition (CISC), which is made up of 25 different trade associations. As part of this group, the focus for CSDA was to assist OSHA with coming up with a rule that is workable in construction through testimony and through submitting hundreds of pages of comment. From the beginning, the CISC and CSDA has stated that the new rule proposed by OSHA was both technologically and economically infeasible. While time is still being taken to fully digest the Final Rule, at first glance it seems to follow suit from what was initially proposed.

PROVISIONS OF THE FINAL RULE

OSHA clearly states that employers must use engineering controls and work practices as the primary way to keep exposures at or below the PEL. Respirators shall only be worn when engineering and work practice controls cannot maintain exposures at or below the PEL. Engineering controls include the use of water or local exhaust ventilation such as vacuums to keep silica dust out of the air. Work practices are suggested such as wetting down an area before sweeping silica dust, or

using the water flow rate recommended by the manufacturer for a tool with water controls. These are methods that can be utilized across the industry.

The Final Rule contains a table that has an assortment of operations that generate respirable crystalline silica (see Table 1). A few operations related to concrete cutting exist in this table, including hand sawing and slab sawing. Providing these tasks are performed with the specified engineering controls, work practices and respiratory protection the employer does not need to perform air monitoring. If a task outside of Table 1 is performed, then the employer is required to perform air monitoring on each shift, for each job, for each work classification in each work area. Some might define this as continuous monitoring. In the concrete cutting industry, having to monitor several locations per day could be quite costly with no real time information directed back to the operator.

The PEL has been reduced from 100 to 50 micrograms per cubic meter of air as an 8-hour time weighted average, with an action level of 25 micrograms per cubic meter of air as an 8-hour time weighted average under any foreseeable condition. The final PEL, even though recommended by NIOSH, has caused great concern for many in the industry simply because it is beyond the capacities of existing dust filtration and removal technology.

Other provisions to be aware of, which are required by all construction employers covered under this standard, are written exposure control plans, competent person designation, housekeeping practices and the requirement of medical examinations.

Competent persons are required to make frequent and regular inspections of jobsites, materials and equipment to implement written exposure control plans to mitigate silica exposure. This provision will be very costly due to an increase in personnel. Due to the diverse situations many contractors in the industry

work, one plan per year will not suffice. This provision will require concrete cutters to have a written exposure plan per site.

A medical surveillance program will be necessary for those employees who are required to don respirators for more than 30 or more days per year. This program will require a chest x-ray every three years interpreted and classified by a NIOSH-certified B-Reader.

The Final Rule can be found at www.osha.gov/silica.

OSHA's Final Rule on Occupational Exposure to Respirable Crystalline Silica will impact the entire construction industry. CSDA and many of its members are concerned that this rule may not adequately address issues important to them or consider several real world applications. The CISC estimates this new rule will cost the construction industry over \$5.5 billion annually, therefore members of the CISC plan on challenging the Final Rule through the Appellate Court system.

It is recommend you visit the OSHA website, find out how this rule will affect your business and contact CSDA to find out how you can help. Now is the time to be a member of CSDA, because this Final Rule will affect your business, your employees and your bottom line if it remains unchallenged.

Kellie Vazquez is the Vice President of Holes Incorporated, a CSDA contractor member based in Houston, Texas. She currently serves on the association's Board of Directors, is chair of the CSDA Next Generation Committee and is involved with a number of other committees. Kellie also acts as CSDA's representative in the CISC and has done so for the past three years, attending meetings and testifying on behalf of the association during hearings on the silica rule at the Department of Labor in Washington D.C. She can be reached at 888-469-7070 or kellie@holesinc.com.

CSDA provides a number of safety resources to protect industry professionals. The association has developed a Silica Data Analysis Chart (CSDA-BP-016) to help operators determine when a respirator should be used according to OSHA regulations. The chart identifies the type of cutting as well as location (indoor/outdoor) to make it easy for the operator to comply with these regulations. CSDA-BP-016 is available to all via www.csd.org under the Architect and Engineer Resources section.

Members also have access to over 100 Toolbox Safety Tips that cover a wide array of topics, including, but not limited to, PPE, fall protection and respirators. In addition, the association has developed a 230-page Safety Manual to assist contractors in establishing safety and health programs for the benefit of both employees and owners. The manual is intended to provide a starting point for developing company-specific safety programs. It is divided into a Field Safety Manual, Reference Section and Q & A section. For more information, call 727-577-5004.