OSHA's New Silica Exposure Rule

On March 24, 2016, The Occupational Safety and Health Administration (OSHA) announced its final rule amending the existing standards for occupational exposure to respirable crystalline silica.

Crystalline silica is a basic component of soil, sand, granite, and many other minerals. It becomes respirable (or able to be breathed in) when workers chip, cut, drill, or grind objects that contain crystalline silica, releasing particles into the air. Breathing crystalline 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. [1]

It is estimated that 2.3 million workers are exposed to crystalline silica on a daily basis in their workplaces. OSHA estimates that the updated standards will save over 600 lives and prevent more than 900 new cases of silicosis each year. [2]

The most severe exposures generally occur during abrasive blasting with sand to remove paint and rust from bridges, tanks, concrete structures, and other surfaces. Other construction activities that may result in severe exposure include: jack hammering, rock/well drilling, tunneling operations, concrete mixing, concrete drilling, and concrete block or brick cutting and sawing.

The U.S. Department of Labor has been aware of the dangers of respirable crystalline silica since the 1930s and set standards to limit worker exposure in 1970, when the Occupational Safety and Health Act was enacted. The industry has been operating under those same 40-year-old standards up until this point. This final rule establishes a new permissible exposure limit (PEL) of 50 micrograms of respirable crystalline silica per cubic meter of air (50 μg/m3) as an 8-hour time-weighted average in all industries covered by the rule. This is two to five times lower than the current PEL.

Further, the rule also includes other provisions to protect employees, such as requiring employers to:

- Use engineering controls (such as water or ventilation) to limit worker exposure to the PEL
- Provide respirators when engineering controls cannot adequately limit exposure
- Limit worker access to high exposure areas
- Develop a written exposure control plan, offer medical exams to highly exposed workers, and train workers on silica risks and how to limit exposures. [2]

Bullard has been providing respiratory protection to workers for over 80 years. Our GenVX® and 88VX abrasive blast respirators both have third-party documentation supporting Assigned Protection Factors (APF) of 1,000, the highest level recognized for this style of respirator, when used properly in accordance with manufacturer's directions. [3]

The final rule is effective June 23, 2016, with affected industries having deadlines to comply as of:

- Construction – June 23, 2017
- General Industry and Maritime – June 23, 2018
- Hydraulic Fracturing – June 23, 2018
    - Except provisions for engineering controls, which are effective June 23, 2021

The full report can be found at:
http://federalregister.gov/a/2016-04800

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[1]OSHA Fact Sheet. Crystalline Silica Exposure Health Hazard Information. https://www.osha.gov/OshDoc/data_General_Facts/crystalline-factsheet.pdf
[2]OSHA's Final Rule to Protect Workers from Exposure to Respirable Crystalline Silica. https://www.osha.gov/silica/
[3]http://apps.bullard.com/files/RP_EVAHLGENVXCOOLTUBE_1000APFSUMMARY_AM_EN_LOW_0000.pdf?1127249592

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