Why was a new rule developed?
OSHA updated the permissible exposure limits for silica to incorporate the most recent scientific evidence regarding worker exposure to respirable crystalline silica and the potential increased risk of developing silica related diseases such as silicosis that can result. According to OSHA data, approximately 2.3 million U.S. workers are exposed to silica at work. Crystalline silica is a common mineral and can be found within various applications such as cutting, sawing and drilling of concrete products in construction, hydraulic fracturing for oil and gas, abrasive-blasting, and many other industries such as glass, pottery and clay manufacturing.

What are the final rule updates?
The final rule includes two standards—one for the construction industry and one for general industry and maritime applications. Key provisions of the new final rule include reduced permissible exposure limit (PEL) for respirable crystalline silica of 50 micrograms per cubic meter of air, averaged during an eight-hour shift. Employers are also required to employ engineering controls that limit worker exposure to the new PEL. When engineering controls cannot limit exposure to required levels, respirators must be provided in accordance with 29 CFR 1910.134.

The final rule also sets requirements to limit worker access to high exposure areas, development of written exposure control plans, medical exams for highly exposed workers, and training for workers concerning the potential hazard itself.

Construction, general industry and hydraulic fracturing have specific dates for compliance:
• Construction—June 23, 2017, one year after the effective date.*
• General industry and maritime—June 23, 2018, two years after the effective date.
• Hydraulic fracturing—June 23, 2018, two years after the effective date for all provisions except engineering controls, that have a June 23, 2021 compliance date.

Worker exposure & respiratory protection
The general industry and maritime standard requires measuring the amount of silica to which workers are exposed, if that exposure may be at or above the established action level of 25 micrograms per cubic meter of air, averaged during an eight-hour day. Should exposure limits exceed the new PEL of 50 micrograms/averaged within an eight-hour day, then dust controls must be implemented.

Per the construction standard, employers have slightly more flexibility when measuring worker exposure. One method is presented in Table 1: Specified Exposure Control Methods When Working with Materials Containing Crystalline Silica of the construction standard.**

Respiratory protection should be worn only when engineering and work practice controls cannot maintain exposure levels at or below the PEL. When respirators are required, they should be in accordance with 29 CFR 1910.134. Basic respirator guidelines include use of an N95 NIOSH-certified respirator for crystalline silica airborne exposures at concentrations less than or equal to .5 mg/m². Silica levels exceeding .5 mg/m² require use of a full-facepiece respirator that provides protection for exposures up to 2.5 mg/m².

*OSHA will delay enforcement of the respirable crystalline silica standard for construction until September 23, 2017.
**https://www.osha.gov/silica/index.html
MSA offers a variety of filters and facepieces that may be suited for protection against respirable silica dust.

### FILTERS

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<td>FLEXI-FILTER N95</td>
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### FACEPIECES

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<td>ADVANTAGE 420 HALF-MASK RESPIRATOR</td>
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Conclusion

The final rule went into effect June 23, 2016; however, new rules are often challenged due to concerns of employer feasibility prior to effective dates. The rule for reference purposes can be found on OSHA’s Web site, as well as additional supporting documents regarding interpretation of both construction and general industry standards.