

# Construction Risk Advisor

July 2019

## HOUSEKEEPING PRACTICES TO CONTROL SILICA DUST

Dust created when working with crystalline silica contains harmful particles. And, while respirable crystalline silica looks like dust, it's much more harmful to workers' lungs. In fact, silica dust is a carcinogen, and breathing it in causes the formation of scar tissue, reducing the lungs' ability to take in oxygen.

Together, these facts outline the importance of adhering to safe work procedures related to respirable crystalline silica. Among these procedures, the Occupational Safety and Health Administration (OSHA) has a number of requirements employers must follow to reduce illnesses and injuries related to respirable crystalline silica.

While it's important to reduce the occurrence of silica dust at job sites, there are specific cleaning precautions that must be taken when it is created, including:

- Avoid dry brushing or dry sweeping whenever possible. The use of dry sweeping and dry brushing can cause respirable crystalline silica dust to go airborne, increasing inhalation risks for workers. In general, dry brushing and dry sweeping should only be used when wet sweeping and high-efficiency particulate air (HEPA)-filtered vacuuming are not feasible.
- Avoid cleaning surfaces or clothing with compressed air. Similar to dry sweeping and brushing, the use of compressed air can cause respirable crystalline silica to plume and create inhalation risks. However, workers may use compressed air alongside a ventilation system that captures the dust cloud or if no other cleaning method is feasible.

Wet sweeping and the use of HEPA-filtered vacuums are preferred, as they typically don't increase silica risks for workers. HEPA vacuums are particularly useful, as they can be 99.97% efficient in removing mono-dispersed particles of 0.3 micrometers in diameter—significantly reducing inhalation risks. There may be instances where wet sweeping and HEPA-filtered vacuums could be ineffective, cause damage or create a hazard in the workplace. In such rare situations, those cleaning methods are not required.

Construction industry employers must protect workers from respirable crystalline silica exposures above the PEL of **50 micrograms of silica per cubic meter of air ( $\mu\text{g}/\text{m}^3$ )**.



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