

Respirable Crystalline Silica in General Industry

Understanding the OSHA enforcement guidance will help you. It gets to the heart of what OSHA feels are key aspects of how it expects employers to comply.

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It wouldn't hurt to talk to the plant manager (or other key production or maintenance supervisors) about any situations that they might be aware of related to this topic. What gets really tricky is when maintenance workers are drilling a couple of holes into a concrete wall to feed some conduit for a new drill press going into a room (example). Are you required to have a written exposure control plan for these "one-off" scenarios? What constitutes an infrequent scenario that would avoid being covered by this standard? Luckily, OSHA put out a FAQ for the construction industry that addresses this very topic, and it would apply to general industry tasks performed by maintenance workers. (**Note:** it is the second of 53 FAQs found on this list: https://www.osha.gov/dsg/topics/silicacrystalline/construction_info_silica.html)

Respirators and Controls

Once you determine that your employees could be affected by this standard, you have to realize that air monitoring for the respirable crystalline silica will be inevitable, needed to help gauge where you are with employee exposure. This entire standard is based on keeping this specific dust below the Permissible Exposure Limit (PEL) and preferably even the Action Level (AL).

As you might already know, simply giving your employees a respirator is not going to solve this compliance problem. (In fact, you will be cited by OSHA if your only course of action is to hand out respirators!) Ultimately, OSHA is expecting you to look at feasible engineering controls to deal with airborne exposure. This might involve ventilation systems, vacuums, and/or water spray options. If you know there is crystalline silica in a product you work with, knowing the percentage of crystalline silica is important. As an example, most concrete in the United States contains 5 to 40 percent silica.¹

The higher the concentration of silica in concrete (or whatever substance you use that contains silica) simply implies you are at more risk for overexposure if the dust becomes airborne. We have seen examples where simply sweeping a concrete floor can affect the amount of respirable silica dust in the air, even if the employer did not use a product containing silica in their operation.

Ten Focus Areas for OSHA Inspections

Getting back to OSHA interim enforcement guidance (easy to find on the OSHA website), there are 10 pri-

mary focus areas that inspectors will be looking at when visiting your facility. Please read the actual document for details to what an inspector would be looking for. Only a brief comment is added about each of these categories below:

1) Permissible Exposure Limit (PEL):

The PEL is 0.05 mg/m³ and the action level is half that amount. You are expected to know what job tasks potentially involve exposure to this dust and have monitoring results.

2) Exposure Assessment:

This is a section that expects the employer to confirm whether employees might be exposed even above the action level. If you use "objective data," it will be scrutinized to make sure it is relevant to your work scenario.

3) Regulated Areas:

This pertains to keeping non-essential employees out of the high-risk areas using signage and/or movable stanchions, cones, or barrier tape.

4) Methods of Compliance—engineering and work practice controls:

What are the ways you are keeping the dust under control? Do you have a legitimate reason why specific engineering and/or work practice controls might not be feasible?

5) Written Exposure Control Plan:

Make sure you have all the required elements of your written exposure control plan. A plan is needed if you are above the action level for this dust.

6) Abrasive Blasting:

This only pertains to employers using this equipment, but this activity can create a tremendous amount of dust.

7) Respiratory Protection:

If respirators are still required (over the PEL) after looking at work practices/engineering controls, you obviously need to follow all requirements of a respiratory program.

8) Housekeeping Practices:

Dry sweeping and compressed air are NOT allowed where such activities could contribute to employee exposure to this dust.

9) Medical Surveillance:

Employees must have medical evaluations be made available if exposed above the PEL for 30 days or more per year. In two years, this requirement will be more strict, requiring a medical evaluation if over the AL for 30 days or more per year.

10) Communication of Hazards:

Training is required for employees exposed at or above the AL over an eight-hour day. Respirable crystalline silica has to be part of the Hazard Communication program.

Worker Protections

One aspect that is commonly overlooked when dealing with toxic dust hazards (lead, hexavalent chromium, asbestos) is what the employee is taking home with them—dust on their clothing. You need to consider how you either protect workers with disposable clothing, laundering services at work, or vacuum systems using a HEPA filter. Both clothes and footwear can carry a significant amount of dust that gets deposited in vehicles and your home at the end of a work shift. Nobody should be further exposing their family to this danger. Many employees still use air guns to blow dust off their clothing, a practice that is not allowed by OSHA and can poten-

tially increase your breathing exposure.

When I have done air sampling at various manufacturing locations, high risks for exposure commonly occur only at brief intervals during a work shift. If you can pinpoint those worker activities (such as cleanup at the end of a shift) where respirable dust levels spike, coming up with feasible work control options is much easier to resolve.

While getting familiar with the OSHA standard for a given safety category is important, I especially like the idea of reviewing the "enforcement guidance" posted for a specific standard. It gets to the heart of what OSHA feels are key aspects of how it expects employers to comply and ultimately keeping your workers safe. Find this document on OSHA's website and understand what to expect if OSHA comes knocking. **OKS**

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REFERENCES

1. cited source: Hilti Silica Dust Webinar FAQ section, Page 4, June 23, 2017
Retrieved from: https://www.hilti.com/content/dam/documents/pdf/w1/dust-solutions/webinar/Silica-Dust-FAQs_Webinar.pdf

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