Heavy Equipment with Enclosed Cabs

Do Your Customers Need to Comply with OSHA's Silica or MSHA's Dust Standards?

What You Need to Know

The Occupational Safety and Health Administration (OSHA) and the Mine Safety and Health Administration (MSHA) require employers to limit their employees' exposure to dust containing silica when working in an enclosed cab.

Workers are at risk when silica dust gets in the air they breathe inside of the cab. Silica dust can cause permanent and disabling lung diseases, such as silicosis, lung cancer, and chronic obstructive pulmonary disease.

Your customers who use heavy equipment and utility vehicles to engage in work that will generate silica dust, such as hoe-ramming, rock ripping, demolition, grading, and excavation, must keep their employees' exposures to silica dust to the low level(s) required by the standard(s) they are working under when performing this work.

Photo courtesy of the IUOE

Regulations:

- OSHA's silica standards for construction (1926.1153) and general industry (1910.1053) are in effect and being enforced. The construction standard includes specific information on tasks that involve heavy equipment with enclosed cabs. OSHA limits workers' silica exposure to 50 micrograms per cubic meter (50 µg/m³ - the permissible exposure limit or PEL.)[1]

- MSHA limits mine workers' exposure to coal dust, which contains silica, including heavy equipment operators, to 1,500 micrograms per cubic meter (1,500 µg/m³).[2]

[1] OSHA Respirable Crystalline Silica website https://www.osha.gov/dsg/topics/silicacrystalline/; OSHA Factsheet on Heavy Equipment and Utility Vehicles Used During Demolition Activities https://www.osha.gov/Publications/OSHA3936.pdf; OSHA Factsheet on Heavy Equipment and Utility Vehicles Used for Grading and Excavating Tasks https://www.osha.gov/Publications/OSHA3937.pdf
[2] MSHA coal dust standard, which contains silica https://tinyurl.com/MSHA-Silica

How You Can Help Your Customers Select The Right Equipment

Ask your customers if the heavy equipment they are planning to purchase or lease will be used for the types of silica generating tasks listed earlier. If the answer is yes, you can help them select equipment that complies with federal and state safety and health standards and protects equipment operators from exposure to silica. Make sure your customers consider the following features:

- An air filtration system that has a filter with an efficiency rating of 95% or higher in the 0.3-10.0 µm range (e.g., MERV-16). A higher rating means less dust can penetrate the filter.
- A positive pressurization system that allows the pressure to be maintained and monitored within the range of 0.05-0.25 inches of water (in.w.g. or in.H2O).
- A heating and cooling system that is set up with air circulation vents that create one-directional air flow – discharge vents above the equipment operator and return vents low in the cab.
- A communication system that limits the need to open the windows and doors.

As an added benefit, these features will also reduce equipment operators' exposure to other dust, noise, and weather-related hazards.

Please Note: The equipment may require other controls, such as a water spray system, dust suppressants, or both to protect employees working outside of the enclosed cabs.

Resources That Can Help Your Customer Comply With The Standards

There are **free** resources available to help your customers understand and comply with requirements in the standards, including:

- The **Work Safely with Silica** website (www.silica-safe.org). This website includes information on the risks, the OSHA standards, a planning tool to create the required silica exposure control plan, and a guide on how to establish a medical surveillance program.

- The **Exposure Control Database** (ecd.cpwrconstructionsolutions.org), which contains a growing inventory of exposure measures for different task, equipment, and control combinations and can be used to help an employer gauge their employees' potential exposures.

- **NIOSH Mining Resources** - https://tinyurl.com/NIOSH-Mining

- **OSHA Silica in Construction Resources** - https://tinyurl.com/OSHA-Silica

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