

Learning About OSHA's New Silica Standards

Every year workers in the United States are exposed to harmful chemicals and toxins that can cause serious illnesses and sometimes death. To mitigate the effects of exposure and to ensure all workers have access to safe and healthy workplaces, the United States Department of Labor's Occupational Safety and Health Administration (OSHA) has issued new standards to reduce these risks. One particularly harmful material that serves as a common component in many everyday items is crystalline silica.

Crystalline silica is found in construction materials, such as brick, concrete, rock, stone, and mortar. The silica is especially harmful during the manufacturing of these materials, where activities like cutting, sawing, drilling, crushing, grinding and pulverizing of these materials produce respirable crystalline. Respirable crystalline silica is a uniquely hazardous mineral for our nation's workforce, where the smallest amount inhaled into a person's lungs can cause serious and sometimes fatal diseases like silicosis, lung cancer, kidney disease and chronic obstructive pulmonary disease (COPD). An estimated two million construction and approximately 300,000 general industry operational workers in the United States are exposed to silica.

An effort to protect workers from this dangerous material, based on years of research, review, and public comment, OSHA has finalized two new silica standards. The rules reduce the amount of silica dust that workers can be exposed to on the job, requiring employers to implement workplace best practices and implement widely-available equipment with water or vacuum systems deemed safe for work. High exposure areas will be clearly identified, limited in access and workers will be provided with respiratory protection when other options are not effective. Other standards that are in effect are:



- Exposure limit: The new permissible exposure limit (PEL) is reduced to 50 $\mu\text{g}/\text{m}^3$ averaged over eight hour shift.
- Scheduled sampling: Perform initial sampling to determine which tasks cause exposure above the action level (AL), then conduct periodic sampling afterwards.
- Exposure control plan: Establish and implement a required written exposure control plan that involve exposure and methods used to protect workers, including procedures to restrict access to work areas where high exposures may occur. Designate a competent person to implement the written plan.
- Medical exams: Comprehensive physical exams, including chest x-rays and lung function tests, is required every three years (at no cost to employees) to any worker who must wear a respirator for 30 or more days a year due to silica exposure.
- Training: Employers must include silica exposure in their Hazard Communication program and relay information on its effects and procedures to prevent overexposure.
- Cleaning: A high-efficiency particulate air (HEPA) vacuum and/or the use of wet methods is required. Poor housekeeping practices such as compressed air, dry sweeping and dry brushing are prohibited.
- Recordkeeping: Records must be kept of air monitoring, objectives, and medical/exposure surveillance.

For more information and to view **Table 1: Specified Exposure Control Methods When Working with Materials Containing Crystalline Silica**, go to <http://www.lhsfna.org/index.cfm/controlling-silica-exposure/>



SILICA COMPLIANCE FLOWCHART

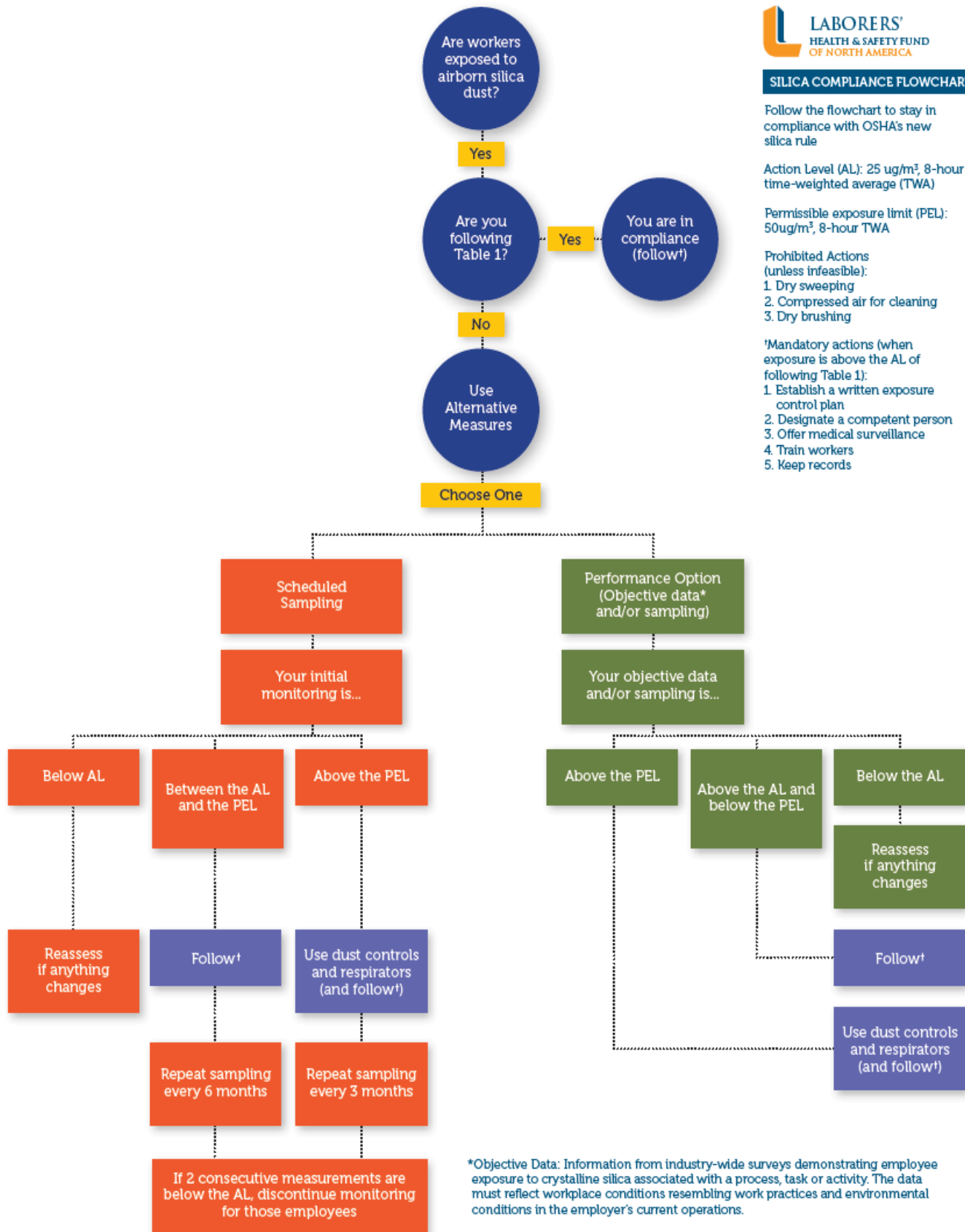
Follow the flowchart to stay in compliance with OSHA's new silica rule

Action Level (AL): 25 ug/m³, 8-hour time-weighted average (TWA)

Permissible exposure limit (PEL): 50ug/m³, 8-hour TWA

- Prohibited Actions (unless infeasible):
1. Dry sweeping
 2. Compressed air for cleaning
 3. Dry brushing

- *Mandatory actions (when exposure is above the AL of following Table 1):
1. Establish a written exposure control plan
 2. Designate a competent person
 3. Offer medical surveillance
 4. Train workers
 5. Keep records



*Objective Data: Information from industry-wide surveys demonstrating employee exposure to crystalline silica associated with a process, task or activity. The data must reflect workplace conditions resembling work practices and environmental conditions in the employer's current operations.