OSHA'S NEW SILICA STANDARD: WHAT YOU NEED TO KNOW

More than 40 years after NIOSH and OSHA first proposed reducing exposures to silica, OSHA has finally issued a rule that will significantly reduce worker exposures to this harmful dust. Respirable crystalline silica dust causes lung cancer, silicosis, chronic obstructive pulmonary disease and kidney disease. Silicosis occurs when silica dust particles in the lung are surrounded by scar tissue, resulting in a decrease of lung function that makes it harder to breathe. OSHA estimates that the rule will save more than 600 lives and prevent over 900 new cases of silicosis each year.

The rule went into effect in the construction industry on June 23, 2016, although enforcement won't begin until June 23, 2017. Although pending lawsuits may delay the new regulation, the strength of the scientific evidence behind the standard should convince any court to keep the rule in place.

The final rule contains many of the provisions that the Laborers' Health & Safety Fund of North America (LHS-FNA) advocated for during OSHA's silica hearings in March of 2015. In the end, OSHA put forth a comprehensive standard that also takes into account the unique nature of construction. For example, it's now possible to entirely avoid air monitoring, which has always been difficult in construction due to tasks often changing from day to day.

OSHA's Table 1 is an important part of the new standard and covers many operations performed by laborers. Table 1 is too large to publish here, but a quick internet search will reveal OSHA's Table 1 and the operations that will not require respiratory protection as long as the tools and equipment are being used properly.

Link for Table 1: http://www.lhsfna.org/index.cfm/controlling-silica-exposure/

Laborers and contractors seeking additional information on the new silica standard can contact the Folsom SET Training Center for more information or compliance assistance.

Here is a brief summary of the new silica standard and what it requires:

* **Exposure limit**: The new permissible exposure limit (PEL) is 50 µg/m3 aver-aged over eight hours; the old PEL was 250 µg/m3 over eight hours.
* **Table 1:** Employers who choose to follow Table 1 (engineering, work practice controls and respirator requirements for 18 operations known to cause high exposures to silica) do not have to conduct sampling or ensure employees are exposed below the PEL.
* **Compliance:** If employers don't follow Table 1, they have two options when exposures may exceed the action level (AL) of 25 µg/m3 averaged over eight hours:
* **Performance option:** Use "objective data" or sampling to determine which tasks are likely to cause exposure over the AL.
* **Scheduled sampling:** Perform initial sampling to determine which tasks cause exposure above the AL, then conduct periodic sampling afterwards.

In all three methods, employers must implement engineering controls and work practices before respirators are used. For more details on the options available to employers, check out our silica flowchart.

In addition to instituting dust controls when exposures exceed the PEL, there are several mandatory actions employers must follow when exposures exceed the AL:

* **Exposure control plan:** A written plan is required and must be implemented by a competent person.
* **Medical exams:** Exams have to be made available (at no cost to employees) to anyone who must wear a respirator for 30 or more days a year due to silica exposure (unless workers had a comparable exam in the past three years).
* **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. Compressed air, dry sweeping and dry brushing are prohibited (unless infeasible).
* **Recordkeeping:** Records must be kept of air monitoring data, objective data and medical/exposure surveillance data.

Compare these sections cut from a diseased lung with large cavities (left) and a pink, healthy lung (right). The diseased lung shows a case of miner's phthisis (also known as silicosis) which has led to tuberculosis. Quartz dust is inhaled by miners, and trapped in the lungs causes silicosis making the victim more susceptible to diseases such as tuberculosis and pneumonia.

Carl Walrond, 'Gold and gold mining - West Coast', Te Ara - the Encyclopedia of New Zealand, http://www.TeAra. govt.nz/en/photograph/9722/diseased-and-healthy-lung (accessed 7 September 2016)

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

ARE WORKERS EXPOSED TO AIRBORN SILICA DUST?

YES

ARE YOU FOLLOWING TABLE 1?

YES → **YOU ARE IN COMPLIANCE (FOLLOW*)**

NO

USE ALTERNATIVE MEASURES

Choose One

SCHEDULED SAMPLING

YOUR INITIAL MONITORING

- **BELOW AL** → **REASSESS IF ANYTHING CHANGES**
- **BETWEEN THE AL & THE PEL** → **FOLLOW*** → **REPEAT SAMPLING EVERY 6 MONTHS**
- **ABOVE THE PEL**

IF 2 CONSECUTIVE MEASUREMENTS ARE BELOW THE AL, DISCONTINUE MONITORING FOR THOSE EMPLOYEES

PREFORMANCE OPTION (OBJECTIVE DATA* *AND/OR

YOUR OBJECTIVE DATA AND/OR SAMPLING IS…

- **ABOVE THE PEL** → **USE DUST CONTROLS AND RESPIRATORS (AND FOLLOW*)**
- **ABOVE THE AL & BELOW THE PEL** → **FOLLOW***
- **BELOW THE AL** → **REASSES IF ANYTHING CHANGES**

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.