

## CRYSTALLINE SILICA FACT SHEET, May 2018

*Potential impact of OSHA's new rule for exposure to crystalline silica dust for scrap recyclers.*

### Introduction

Occupational exposure by inhaling respirable crystalline silica dust can cause silicosis, lung cancer, chronic obstructive pulmonary disease (COPD) and kidney disease. Studies indicate that the previous limit has not been effective in preventing these types of industrial illnesses as evidenced by a long history of occupational illnesses (black lung, miller's cough, asbestosis, etc.) caused by long term exposure to dusts in the workplace.

After over 10 years of debate, OSHA issued a new standard for Crystalline Silica exposure. This rule is the first reduction in 45 years. The previous standard was issued in 1971. The new standard was issued March 23, 2016.

This revised standard lowers the permissible exposure limits (PEL) for crystalline silica dust for general industry from 100 micro grams/cubic meter to 50 micro grams/cubic meter. It also sets an action level of 25 micro grams/cubic meter averaged over an 8-hour day.

The Standard is divided into 2 parts. One for general industry and maritime and one for the construction industry. This fact sheet focuses on the **general industry standard**.

The compliance date for general industry is set for June 23, 2018 for all requirements. (NOTE: If employees are exposed above the **Action level** for 30 days are more per year but below the **PEL**, compliance with the medical surveillance requirements are deferred until June 23, 2020.)

### Requirements

The Rule applies if the action level of 25 micro grams/cubic meter is exceeded on an 8 hour time weighted average (TWA). If the employer can demonstrate that no area or task will ever exceed the 25 micro gram action level the rule does not apply. However, if engineering controls are used to insure that the 25 micro gram/cubic meter limit is not exceeded, a full written exposure control plan is required unless the operation is immediately shut down when engineering controls are not functional.

There are two methods of compliance: The performance option uses data air monitoring data from industry wide surveys, or previous air sampling results taken by the employer.

The second option is a scheduled monitoring plan. This requires 8 hour air sampling taken near the breathing zone while the employee is working. The frequency and jobs monitored are determined by the results verses the action level and the PEL.

If sampling or past data indicate potential exposure above action level, a full written exposure control plan is required. Corrective action follows a similar path to other OSHA standards: First, try to eliminate or reduce the hazard. Second, apply engineering controls. Third, apply work practice controls. Last apply

the use of appropriate respirators if there is potential for exposure above the 50 micro gram per cubic meter 8 hour time weighted exposure limit (PEL). Note: the use of respirators requires full compliance with the OSHA standard on respirator use.

If engineering controls are planned, respirator use must continue until controls are completed.

### **Potential impact on recycling industry**

ISRI members who deal with tires, plastics, glass, electronics, asphalt roofing or other construction debris have the potential employee exposure as crystalline silica is used in the manufacturing of these materials at varying levels. Note that glass is primarily amorphous silica which is not included in the regulation at this point. The impact is expected to be minimal for facilities that either demonstrate exposure levels consistently below the 25 micro gram/cubic meter or can easily get to there. Higher exposure levels can increase compliance costs.

### **Recommended Short Term Actions:**

- A potential source of silica is dust that accumulates in the yard, particularly if the yard is concrete. Consider sampling and analyzing the dust for crystalline silica. If it tests positive, one way to limit employee exposure is the use of water applications to control yard dust.
- Train employees on the hazards of crystalline silica dust and the new rule with lower limits.
- Survey your facility looking for dusty areas and/or dusty jobs.
- Review past air sampling data if any exists.
- If no previous data exists, conduct 8 hour air sampling of dusty areas and/or dusty jobs –
- If scrap steel is received from building dismantlement, be alert for concrete that may be adhered to the steel, remove before processing.
- Any activity identified as having the potential for worker exposure above the permissible limit (PEL) must be addressed in a control plan. Workers in those areas must wear appropriate respiratory protection.
- For guidance on preparing and implementing a control plan, OSHA has prepared a “Small Entity Compliance Guide for Respirable Silica Standard for General Industry” OSHA 3199-07-2017.
- Review your torching operations to evaluate the potential for worker exposure to silica and ensure that adequate respiratory protection is being utilized

### **Note:**

Any activity that closely resembles construction type work, for example dismantling a structure or paved area that contains concrete that will be removed or replaced requires that the **Construction Standard** for crystalline silica be followed.

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