Toolbox Talk

Crystalline Silica Awareness

Introduction:

Workers who perform a variety of job tasks, including sandblasting, cutting, drilling, sawing, grinding, and crushing of rock, risk acquiring disease from tiny airborne particles that can penetrate deep into the lungs. A common compound found in products used daily, such as sand, concrete, cleansers, cosmetics, caulk, and paint is called crystalline silica. Workers who inhale the tiny crystalline silica particles, also known as “respirable” particles, are at an increased risk of developing serious diseases, including silicosis, lung cancer, chronic obstructive pulmonary disease (COPD), and kidney disease.

Discussion Points:

- Establish and implement a written exposure control plan
- Identify hazards relating to crystalline silica
- Identify tasks that involve exposure and methods used to protect workers
- Determine the amount of silica that workers are exposed to
- PPE and training

Discussion:

Regulations for OSHA’s Respirable Crystalline Silica Standard for General Industry can be found in 29 CFR 1910.1053. It requires employers to establish and implement a written exposure control plan that identifies tasks that involve exposure and methods used to protect workers.

Before any work begins, the employer should perform an exposure assessment of the work area to establish regulated areas where exposures to airborne concentrations of respirable crystalline silica can be expected greater than the permissible exposure limit (PEL) which is a limit value over eight hours (8-hour TWA) set by OSHA. The boundaries of the regulated area must be marked off from the rest of the workplace using tape, barricades, or cones. Signs should be posted at each entrance of the regulated areas to limit access. Employees entering or working in regulated areas should use NIOSH-approved N95 respirators for protection. The respirators must be put on before entering and taken off after exiting the regulated area.

Engineering controls should be used to prevent the silica dust from becoming airborne, and reduce exposure to workers. Water sprays can be used to control the dust, and local exhaust ventilation can be used to contain or capture it at the source. The employer must determine what the most effective control measure is, based on the exposure assessment.

Workers must be trained at the time they are assigned to a task involving exposure to respirable crystalline silica. Training must be specific for the workplace and tasks that each employee performs. Additional training is required when a task is changed, or a new task is added, or when there is a change in protection or engineering controls.

The Respirable Crystalline Silica standard requires employers to review and evaluate the written exposure control plan at least once a year and update it as necessary.

Additional information on OSHA’s silica standard can be found at http://www.osha.gov/silica-crystalline

As always, stay safe out there!

January 17, 2022