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MONTHLY SAFETY BRIEF: CRYSTALLINE SILICA EXPOSURE

So far this year for our safety briefs we have been focused on specific policies, from no until the end of the year we will focus on specific contaminants you should be aware of. First up is SILICA because of new OSHA regulations this year.

Crystalline silica is a natural component of earth crust, it makes up the basic foundations of sand and granite. More common exposure in the construction industry but is also presenting in general industry. OSHA estimates 300,000 employees in general industry are exposed to silica and 100,000 of them over the PEL. The main health effect is silicosis, which damages lung tissue. Acute and Chronic versions of this exists both are permanent damage.

Click here for OSHA's Fact Sheet on Silica in the Construction Industry and here for OSHA information on Silica.

The following are the new exposure limits for both general industry and construction industry:

PEL: 50µg/m³
Action level: 25µg/m³

INDUSTRIES EXPOSED TO CRYSTALLINE SILICA

Concrete products, foundries, ready-mix concrete sector have the higher number of exposed employees in general industry. Main exposure comes from construction activities such as: jackhammering, drilling, cutting, sawing and tunneling operations. The following are some general industry sectors that are known to produce crystalline silica:

- Concrete products
- Cut stone
- Dental laboratories
- Foundries
- Railroads (setting laying, repairing tracks)
- Shipyards
- Ready mix concrete
- Oil and gas operations

CONTROLS

- Limit access to workers where exposers are above the PEL
- Proper compliant respirator programs
- Written exposure control plan
- Offer medical surveillance, chest X-rays, lung function tests to employees exposed above the PEL 30 or more days of the year
- Keep records of silica exposures and worker medical exams
- Not eating or drinking around possible silica exposure
- Use disposable PPE and have wash stations readily available

MONITORING

- Personal air monitoring is conducted over full shifts using a cyclone to collect the respirable fraction of particulate exposure. The lab analyzes for silica content.

Silica Exposure Quiz

1) Which of the following is not considered a dangerous potential for Silica exposure?
   a. Mixing concrete
   b. Painting
   c. Laying train tracks
   d. Drilling

2) Which of the following is bad work practice for employees exposed above the PEL for more than 30 days?
   a. Washing hands before eating/drinking after working in a known exposed area
   b. Waiting until you get home to shower and change out of PPE
   c. Complying with OSHA respirator Program
   d. Avoiding known silica contaminated work areas when unnecessary to enter

3) Silica exposure only occurs in the construction industry.
   ☐ True
   ☐ False

4) If your work clothes become contaminated at a jobsite due to unforeseen circumstances you should:
   a. Do nothing, because one time is no big deal.
   b. Just try and clean your clothes the best you can at the jobsite.
   c. Immediately inform your project manager and work out a strategy to safely address the situation.
   d. Put a Tyvek suit on over your clothes and drive home.

SCORE: PASS / FAIL

Employee Signature _____ Supervisor Signature _____ Date _____