Toolbox Talks

The Dangers of Silica

Many common construction work tasks generate harmful levels of crystalline silica dust if proper controls are not followed. When silica dust builds up in your lungs, you are at risk of developing a serious lung disease called *silicosis*, which can lead to death. *Silicosis* is not curable, but it is preventable. The more you know about silica dust, the better prepared you will be to adequately protect yourself.

What is Silica?:

Silica is the basic component of sand and rock. Some common silica-containing materials include:

- Concrete, concrete block, cement and mortar
- Masonry and tiles
- Brick, refractory brick
- Composite products such as Hardiplank
- Granite, sand, fill dirt, top soil
- Asphalt containing rock or stone
- Abrasive used for blasting

You may be exposed to silica when working with or around these materials.

Are you exposed to silica dust?

The cutting, breaking, crushing, drilling, grinding, or abrasive blasting of these materials without proper controls will produce fine silica dust.

If you do one of the following activities, <u>you are at risk</u> of breathing silica dust:

- Chipping, sawing, grinding, hammering, and drilling of rock, concrete, or masonry
- Crushing, loading, hauling, and dumping of rock
- Sawing, hammering, drilling, grinding, and chipping of concrete or masonry
- structures
- Demolition of concrete or masonry structures
- Power cutting or dressing stone
- Abrasive blasting and hydro blasting of concrete
- Clean-up activities such as dry sweeping or pressurized air blowing of
- concrete or sand dust
- Tunneling, excavation, and earth moving of soils with high silica content

*Remember, just because you can't see dust particles, doesn't mean there isn't silica in the air. Silica particles can hang around for an entire work shift without being visible to the naked eye.

What is Silicosis and how is it prevented?

Silicosis is a type of lung disease that occurs when silica dust is inhaled. The dust contains tiny shrapnel like particles of crystallized silica that cause tiny tears in your lung tissue, resulting in patches of scar tissue when the tear is repaired by your body. This scarring limits your lung function overtime, worsening with each exposure and eventually limiting your ability to breathe. Some who have been exposed to silica in high concentrations experience symptoms in a few weeks, or gradually get symptoms with smaller exposures over 4-10 years.
Monitoring your lung function is important when you are routinely exposed to silica, even when protected. Talk to your doctor about your silica exposure and routine medical monitoring for your lungs.
The key to silicosis prevention is to prevent the dust from getting into the workplace air. Your supervisor will give you information on which controls are needed to suppress the silica dust for your work and for limiting your exposure. If you are unsure if you are properly protected, it is your responsibility to ask!

Control Methods/Best Practices

Common methods and best practices for eliminating or reducing exposure are a combination of dust suppression, erecting barriers, and PPE. Some of the controls come in forms of continuous water spray, HEPA vacuums, dust caps, tape barriers, and full enclosure systems sometimes including negative air units. PPE could include tyvek suits, eye and hand protection and respirators. As with any hazard, PPE should be your last line of defense in protecting yourself.

Questions to Generate Discussion

- What are some of your common work tasks that generate silica?
- What kind of products and materials do you use that contain silica?
- What types of respiratory protection do you think are best suited and practical for your work task?

EMPLOYEE SIGN OFF		
Print Name	Signature	Date