SAFETY UNLIMITED, Inc.

Weekly Safety Meeting

Your Safety Is Our Business®

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Hazards of Silica Dust

Crystalline silica is a common mineral in the earth's crust and is found in many types of rock including sand, quartz, and granite.

Crystalline silica has been classified as a human lung carcinogen. Additionally, breathing crystalline silica dust can cause silicosis, which in severe cases can be disabling or even fatal. The respirable silica dust enters the lungs and causes the formation of scar tissues, thus reducing the lungs' ability to take in oxygen. There is no cure for silicosis. Since silicosis affects lung function, it makes one more susceptible to lung infections like tuberculosis. In addition, smoking causes lung damage and adds to the damage caused by breathing silica dust.

Due to the extensive use of concrete and masonry products in buildings today, construction workers have a potential exposure to crystalline silica. Operations such as dumping of rock, jack hammering, abrasive blasting, sawing, drilling, or demolition of concrete and masonry structures are some of the activities that could produce this exposure.

Silica sand or other substances containing more than 1% crystalline silica should never be used as abrasive blasting materials. Where silica exceeds 1% of the content, less hazardous materials should be substituted. In addition, always follow safe work practices when there is possible exposure to silica dust.

Appropriate Protection:

- Keep awareness high--which is the key to preventing silicosis. Recognize when silica dust may be generated and plan ahead to eliminate or control the dust at the source.
- Use proper respiratory protection when point of operation controls cannot keep exposures below the recommended exposure limit.
- Use Type CE pressure-demand, or positive-pressure, abrasive-blasting respirators when sandblasting.
- Wear only a N95 NIOSH-certified respirator, if respirator protection is required. Do not alter the respirator. Do not wear a tight-fitting respirator with a beard or mustache that prevents a good seal between the respirator and the face.
- Always use dust control systems when they are available and keep them well maintained.
- Be aware that high silica concentrations can occur inside and outside enclosed areas during operations such as concrete or masonry sawing or abrasive blasting.
- Do not eat, drink, or smoke in areas where sandblasting is being done or where silica dust is being generated.
- Wear disposable or washable over-garments at the work site.
- Wash your hands and face before eating, drinking, or smoking and vacuum (don't blow) dust from your clothing.
- Shower if possible and change into clean clothes before leaving the job site to prevent contamination of cars, homes, and other work areas.
- Remember: If it's silica, it's not just dust.

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Symptoms of Silicosis:

Silicosis is classified into three types: chronic/classic, accelerated, and acute.

Chronic/classic silicosis, the most common, occurs after 15-20 years of moderate to low exposures to respirable crystalline silica. Symptoms associated with chronic silicosis may or may not be obvious: therefore, workers need to have a chest x-ray to determine if there is lung damage. As the disease progresses, the worker may experience shortness of breath upon exercising and have clinical signs of poor oxygen/carbon dioxide exchange. In the later stages, the worker may experience fatigue, extreme shortness of breath, chest pain, or respiratory failure.

Accelerated silicosis can occur after 5-10 years of high exposures to respirable crystalline silica. Symptoms include severe shortness of breath, weakness, and weight loss. The onset of symptoms takes longer than in acute silicosis.

Acute silicosis occurs after a few months or as long as two years following exposures to extremely high concentrations of respirable crystalline silica. Symptoms of acute silicosis include severe disabling shortness of breath, weakness, and weight loss, which often leads to death.

Lungs take care of normal dust. Airborne dust and dirt is common at worksites–both at home and on the job. Fortunately, the body's respiratory system does a good of job filtering out dust and most foreign bodies. Fine particulates such as asbestos and silica, however, are so tiny they can get past our filtering system. This may cause serious lung problems over an extended period of time if protection or controls are not used. Respect these tiny invaders. Use the appropriate personal protective equipment and safety precautions.

Make safety a reality and don't be a fatality!!

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Safety Meeting Sign-In Sheet

Supervisor:	*Subject:*
Location:	*Date:*
Conducted By:	*Trainer Signature:*

Name (print clearly)	Signature	Comments / Safety Concerns / Training Requests