

## What is Crystalline Silica?

Refer to sign-in sheet for attendees (note: a separate meeting should be held with all absent employees).

### 1. Overview:

Over- exposure to respirable crystalline silica particles can lead to serious, sometimes fatal illnesses including silicosis, lung cancer, tuberculosis (in those with silicosis), and chronic obstructive pulmonary disease (COPD). In addition, silica exposure has been linked to other illnesses including renal disease and other cancers. Silicosis is a progressive disease and there is no cure upon its onset, thus minimizing your exposure to respirable crystalline silica is the key to prevention.

### 2. What Is Crystalline Silica?

Crystalline silica is a naturally occurring mineral found abundantly in the earth's crust. It occurs in several forms with quartz being the most common form. It is a component of sand, stone and rock and thus also a component of manmade materials such as concrete, brick, block, and mortar. In the stone industry, exposure to crystalline silica often occurs as part of common workplace operations involving cutting, sawing, drilling, grinding/sanding and crushing of natural and engineered stone products such as granite and slate and also in the quarrying of these materials.

### 3. Medical Designations of Crystalline Silica?

- Inhalation and over-exposure to respirable crystalline silica particles, tiny invisible particles, has long been known to cause lung disease including silicosis, a disabling, non-reversible and sometimes fatal lung disease. Several agencies have designated or concluded that crystalline silica as carcinogenic to human (causes cancer) including The International Agency for Research on Cancer (IARC) and The U.S. National Toxicology Program. Additionally, the National Institute for Occupational Safety and Health (NIOSH) (US) has also recommended that respirable crystalline silica be considered a potential occupational carcinogen.

### 4. Responsibilities and Why is this Important to Me?

- Exposure to crystalline silica can be minimized.
- Employers have the responsibility to provide training, equipment, work instructions and/or personal protective equipment (PPE) to minimize exposures to crystalline silica.
- Employees have the responsibility to comply with the content of their training and provided work instructions and to properly use the provided equipment and PPE to minimize their exposure to crystalline silica.
- Crystalline silica can be transferred outside of the workplace, for example to the employee's home, and cause exposure to family members unless proper personal hygiene practices are followed.

**Note:** More information on silicosis and prevention measures will be provided in a separate talk.

### 5. Discussion:

- How are crystalline silica exposures created in the workplace?
- What are the employee responsibilities in preventing exposure to crystalline silica?

### 6. RECAP/REVIEW:

- What component of stone processing dust are we primarily concerned about? .

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## 7. Reminder:

- Safety is the responsibility of both management and employees!

Next Safety Meeting is scheduled for \_\_\_\_\_ and the topic will be \_\_\_\_\_.

## Take Exam / Review Results

## Exam – What is Crystalline Silica?

### True (T) or False (F)

1. T F Crystalline silica is a natural mineral found in quarried materials such as granite and slate.
2. T F Over- exposure to crystalline and can lead to serious, sometimes fatal illnesses including silicosis, lung cancer, tuberculosis (in those with silicosis), and chronic obstructive pulmonary disease (COPD).
3. T F Examples of operations which can cause exposure to crystalline silica include cutting, sawing, drilling, grinding/sanding and crushing of natural and engineered stone products.
4. T F There is no cure for silicosis.
5. T F Silicosis is a progressive disease which only worsens over time?
6. T F Unless proper hygiene practices are followed, crystalline silica exposure can be transferred outside of the workplace.
7. T F Minimizing exposure to crystalline silica is the best way to prevent silicosis?
8. T F Employees have the responsibility to comply with the content of their training and provided work instructions and to properly use the provided equipment and PPE to minimize their exposure to crystalline silica.

### (Select the best answer)

9. **Which of the following agencies have designated or concluded that crystalline silica is a human carcinogen?**
  - A. International Agency for Research on Cancer (IARC)
  - B. U.S. National Toxicology Program
  - C. The National Institute for Occupational Safety and Health (NIOSH)
  - D. All of the above.
  
10. **Which of the following is the most common form of crystalline silica?**
  - A. Cement
  - B. Slate
  - C. Quartz
  - D. None of the above.