CRYSTALLINE SILICA

TALK SAFETY TO ME TOOLBOX TALKS

What Is Crystalline Silica?

Crystalline silica is a common mineral found in materials such as:

- Sand
- Stone
- Concrete
- Brick
- Mortar
- Asphalt
- Engineered stone

When these materials are cut, drilled, ground, crushed, or swept, very small silica dust particles can become airborne and be inhaled.

Why Is It Dangerous?

Breathing respirable crystalline silica can cause serious health problems, including:

- **Silicosis** – a permanent and potentially disabling lung disease
- **Lung cancer**
- **Chronic obstructive pulmonary disease (COPD)**
- **Kidney disease**

The dust particles are so small that they can penetrate deep into the lungs without being seen.

Common Exposure Activities

Workers may be exposed during:

- Concrete cutting or drilling
- Masonry work
- Demolition activities
- Sweeping dry dust
- Jackhammering
- Sandblasting
- Crushing operations
- Handling engineered stone countertops

Warning Signs of Overexposure

Exposure often causes no immediate symptoms. Long-term signs may include:

- Shortness of breath
- Persistent cough
- Fatigue
- Chest pain
- Reduced lung function

Because symptoms can take years to appear, prevention is critical.

How to Protect Yourself

Engineering Controls

- Use water to suppress dust.
- Use local exhaust ventilation and dust collection systems.
- Use equipment designed with dust-control features.

Work Practices

- Avoid dry sweeping whenever possible.
- Use wet methods or HEPA-filter vacuums for cleanup.
- Stay upwind of dust-generating activities.
- Follow established silica control plans.

Personal Protective Equipment (PPE)

- Wear approved respiratory protection when required.
- Ensure proper fit testing and training.
- Wear safety glasses and other required PPE.

Employee Responsibilities

- Follow all safe work procedures.
- Inspect dust-control equipment before use.
- Report damaged equipment immediately.
- Use required PPE correctly.
- Participate in silica exposure and respiratory protection training.

Discussion Questions

1. What tasks at our worksite generate silica dust?
2. What controls are currently being used to reduce exposure?
3. What should you do if dust controls are not working properly?
4. When is respiratory protection required?