



Crystalline Silica in Tile Manufacturing - Fact Sheet

What is Crystalline Silica?

- Crystalline silica is a naturally occurring mineral found in sand, stone, and clay.
- In tile manufacturing, it is present in raw materials like clay and glaze.

Where is Silica Exposure in Tile Manufacturing?

- Cutting, grinding, and drilling tiles
- Handling raw materials (clay, glaze, dust)
- Cleaning dust in production areas

Health Hazards:

Inhalation of silica dust can cause serious diseases such as:

- Silicosis (lung scarring and reduced lung function)
- Lung cancer
- Chronic obstructive pulmonary disease (COPD)
- Kidney disease

OSHA Exposure Limits:

- Permissible Exposure Limit (PEL): 50 $\mu\text{g}/\text{m}^3$ (micrograms per cubic meter of air)
- Action Level (AL): 25 $\mu\text{g}/\text{m}^3$ (over an 8-hour shift)

Control Measures:

- Use wet cutting methods or tools with integrated water delivery systems
- Install and maintain local exhaust ventilation (LEV)
- Use HEPA-filtered vacuums for cleaning
- Implement housekeeping practices to minimize dust buildup
- Provide and enforce proper use of respirators when necessary

PPE Requirements:

- NIOSH-approved respirators (when exposure exceeds PEL)
- Safety glasses/goggles
- Protective gloves and clothing to prevent dust transfer

Best Practices:

- Conduct regular air monitoring and exposure assessments
- Train employees on silica hazards and safe practices
- Keep food and drinks out of dusty areas
- Wash hands and face before eating or drinking

Remember:

Reducing silica exposure is critical for protecting workers' health. Follow safety protocols and always wear the required PPE.