



Workers that inhale crystalline silica are at increased risk of developing silica-related diseases that can be debilitating or even fatal.

Protective steps must be taken to prevent, reduce and measure exposure levels to silica dust to ensure the safety of all workers.

Common work materials found on job sites that may contain crystalline silica **include sand, stone, rock, concrete, brick, mortar, and block.**

Silica is also found in products **like glass, pottery, and ceramics.**

Typical construction activities that release silica dust into the air include:

- Using **masonry saws**, grinders drills or jackhammers
- Sawing into brick or concrete
- Using handheld powered chipping tools
- Drilling into concrete walls
- Grinding mortar
- Using heavy equipment for demolition
- **Cutting or crushing stone**

Workers who inhale silica dust particles are at an increased risk of developing illnesses including

- Silicosis - an incurable lung disease
- Lung Cancer
- Chronic Obstructive Pulmonary Disease (COPD)
- Kidney disease
- Tuberculosis.

A dust mask is not enough!

Respiratory protection is only permitted when other dust control measures are not sufficient.

- Effective dust control methods must be implemented to prevent silica dust from being released into the air.
- When dust control methods do not fully control the silica dust, then the amount of silica dust that workers are exposed to should be determined.
- Workers must be protected from silica dust, with dust controls and safer work methods, when it is measured at or above the level of 50 µg/m³, averaged over an 8-hour day.
- **Respirators must be provided** to workers when dust controls and safer work methods cannot effectively keep exposure under 50 µg/m³, averaged over an 8-hour day.

Employers who have workers that are exposed to silica dust must establish the following and affected employees must be aware of and assist in effectively implementing these requirements.

- A **written exposure control plan** must be implemented that identifies silica-exposure tasks and the methods that will be used to protect workers.
- A **competent person** must be designated to implement the written exposure control plan.

- **Housekeeping** practices that expose workers to silica dust must be restricted.
- All workers that may be exposed to silica dust must be provided **training** on the health effects of silica exposure, the tasks they may encounter that would expose them to silica and the ways they can limit their exposure.

To limit exposure to harmful silica dust, these control methods can provide a safer work environment:

- **Apply water** to a saw blade when cutting materials or use tools equipped with an integrated water delivery system.
- Use tools equipped with shrouds and commercially available dust collection system.
- Install local ventilation or **use vacuums** to collect dust.
- **Use enclosures** that isolate the work process.
- Avoid working in dusty work environments whenever possible and wear a respirator when needed/required.
- **Wet dust** before sweeping it up or vacuum dust instead of sweeping it.
- Do not eat or drink near dusty work areas.
- Park cars and trucks away from the work area so they will not be covered with silica dust.
- Change into clean clothes before leaving the worksite to prevent carrying silica dust away from the work site.