

Silica Fact Sheet

What is Silica?

Silica, or silicon dioxide (SiO_2), is a naturally occurring mineral found in materials like sand, stone, brick, concrete, and mortar. It's one of the most common minerals on Earth and is often found in construction materials.

What is Silica Dust?

Silica dust is the fine particulate form of crystalline silica that is released when materials containing silica, such as bricks, pavers, concrete, or stone, are cut, drilled, crushed, or ground.

The dust can become airborne and, when inhaled, poses serious health risks.

How Small is Silica Dust?

Silica dust particles are extremely small—less than 10 micrometers (μm) in diameter. For comparison, a human hair is about 50 to 70 μm thick, meaning silica dust particles are about 5 to 7 times smaller.

The most harmful type of silica dust is **respirable crystalline silica**, which consists of particles small enough (less than 4 μm) to be inhaled deep into the lungs.

Silica can be found in beach sand at around 90 microns, however, silica dust particles are much smaller at sizes between 0.2-7 microns which is considered 'respirable'.

Why is Silica Dust Dangerous?

Inhaling silica dust can cause severe long-term health problems because the tiny particles can penetrate deep into the lungs. Once there, they can cause:

- **Silicosis:** A debilitating lung disease caused by the accumulation of silica dust in the lungs. It leads to scarring, making it difficult to breathe and reducing lung function.
- **Lung Cancer:** Prolonged exposure to respirable silica dust increases the risk of lung cancer.
- **Chronic Obstructive Pulmonary Disease (COPD):** Exposure can lead to a range of respiratory issues, including bronchitis and emphysema.

Health Risks for Installers

Masonry units can contain anywhere between 0.1% to 60% silica content, however, it is important to note that although these building materials can contain high volumes of silica, in their modular state, masonry products **do not pose any risk to workers or consumers**.

The risk only occurs when the material is physically modified through processes including cutting, grinding, and drilling. This will cause the crystalline silica to become airborne, resulting in Respirable Crystalline Silica (RCS) otherwise known as silica dust.

Due to the modular nature of masonry units, there is a reduced need for cutting onsite. In contrast, other silica-containing materials require frequent cutting and modification on-site, particularly in indoor, poorly ventilated spaces.

As a result, **masonry products pose minimal risk of exposure to silica dust when processed and used in compliance with our manufacturer's safety guidelines**.



REMEMBER! Silica dust is a hidden danger. Even though the particles are too small to see, they can cause lasting damage to your lungs. Always take the necessary precautions to protect yourself and your team.



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Installers may frequently cut, saw, or grind silica-containing materials like concrete, bricks, or pavers, putting you at a higher risk of exposure to silica dust. Long-term exposure without protection could lead to serious and irreversible lung damage.

PROTECT YOURSELF FROM SILICA DUST BY:

■ Using Proper Ventilation

Use water suppression or dust extraction systems to reduce airborne dust.

■ Wearing Respiratory Protection

Always wear a high-quality dust mask or respirator rated for silica dust (P2/N95 masks), ensure a good fit.

■ Use Wet Cutting Methods

When possible, use water-fed tools to suppress dust during cutting and grinding.

■ Minimising Dry Sweeping

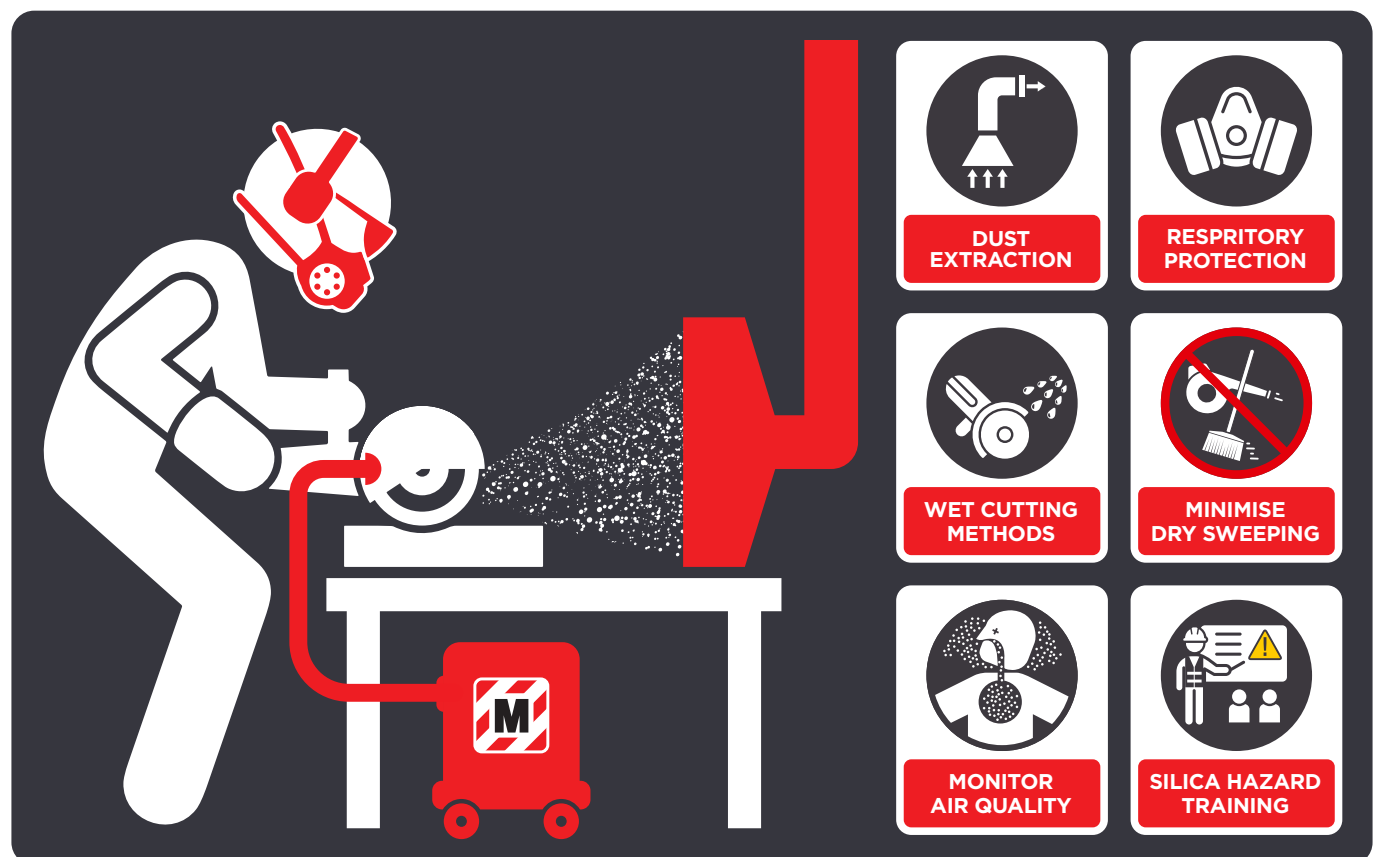
Avoid dry sweeping of dust and use vacuums equipped with HEPA filters instead.

■ Monitoring Air Quality

Ensure regular monitoring of dust levels in the work environment.

■ Training

Ensure that you and your team are trained on the hazards of silica dust and the safety measures necessary to reduce exposure.



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