

Crystalline Silica

Info Sheet

What is Crystalline Silica?

Many commonly used building materials contain silica. Crystalline silica is a naturally occurring mineral found in sand, stone, concrete, and mortar. It is also a key component in various products, such as engineered stone used for kitchen and bathroom benchtops, as well as bricks and tiles.

The crystalline silica content in different materials can vary:

Ceramic Tiles

5% to 45%

Slate

20% to 40%

Granite

25% to 60%

Sandstone

70% to 90%

Engineered Stone

80% to 95%

Exposure to crystalline silica dust can be hazardous, especially when inhaled over an extended period at low to moderate levels or in high concentrations over short durations. While silica in its solid form is safe, generating dust through cutting, drilling, or grinding silica-containing materials can lead to silicosis, a serious occupational lung disease caused by inhaling crystalline silica particles.

Additional tasks such as grinding or leveling substrates, as well as mixing grouts and adhesives, may also produce airborne silica dust that can be harmful if inhaled.

To minimise risk, always use a score-and-snap cutter or a wet saw whenever possible. Before starting any cutting ensure you are wearing the correct Personal Protective Equipment (PPE), including an approved mask that meets Australian Standards.

Avoid dry cutting or grinding with an electric grinder. If dry cutting is unavoidable, use equipment with integrated dust collection systems or exhaust ventilation directed away from the operator. If other dust control measures are not effective in keeping exposure below workplace safety standards, wear a well-fitting, approved respirator (refer to Safe Work Australia for guidance).

Whenever possible, use score-and-snap or wet cutting methods and perform cutting in an external or well-ventilated area to reduce dust exposure.

Breathing Protection

Wear the appropriate Respiratory Protective Equipment (RPE) that complies with AS/NZS 1716 – Respiratory Protective Devices. Always check the product information to ensure the RPE is AS/ NZS 1716 compliant.

More Info

Visit Safe Work Australia for further information on Workplace Exposure Standard (WES).

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