

SILICA DUST ON CONSTRUCTION SITES

Silica (Respirable Crystalline Silica or RCS) is a topic that keeps coming up in the news lately. Is it dangerous? This toolbox talk covers many common questions about Silica on Construction sites.

[The NZ Herald](#) recently ran an article profiling the spike of silica related illnesses and deaths amongst tradies in Australia.

“Anthony White should be in the prime of his life.

But instead, the 36-year-old Australian is battling a debilitating and incurable disease which has nearly taken his life.

Late last year, the Gold Coast stonemason developed a chest infection which wouldn't clear up and he quickly lost a lot of weight.

His concerned mum told him to see a doctor, and in November he was given the shocking news — he had been struck down by silicosis.... [read more](#)”



WHAT IS SILICA? Silica is an abundant natural substance found in materials on construction sites, such as concrete, bricks, rocks, stone, sand and clay. That's why it's found in so many building products – if they weren't made of Silica then there would literally not be much else to make them from (asides from oxygen)! However, dust is usually created when working with these products and, if the silica particles in this dust are fine enough they can be breathed deep into the lungs and cause damage. The dust that can be breathed in is not always visible to the naked eye. Many modern building products contain high-levels of silica (fibre cement boards contain 10-30% for example)

Hazards and Risks

- Lung Cancer, Silicosis, Chronic obstructive pulmonary disease (COPD: Breathing in RCS can cause scarring of the lung tissue, a condition referred to as silicosis. This scarring can result in shortness of breath. The effects of silicosis are permanent and may continue to develop even after exposure has stopped.
- Many controls that are commonly used (masks for example) do not consider bystanders or clients onsite.
- Contamination of off-duty areas – vehicles, clothing, laundry rooms etc.
- Mess – Spraying dust everywhere can cause delays due to clean up and, in some cases, having to redo work due to the dust.



- The workplace exposure standard (8th ed) is .1mg.m-3 (unprotected, no controls, over an 8 hour work day)

Controls for Silica

The go-to method for controlling dust hazard is usually a disposable mask. Is this the best option? Why or why not?

Eliminate

- Substitute safer materials wherever possible. This is the best option and should be your first choice. (Plastic houses FTW!)
- If you must use silica containing product then use a technique that does not create dust.



Minimise

- Isolate the area using taped plastic sheeting or shut doors and windows for duration of work.
- Use hand tools instead of power saws for smaller tasks – score and snap, gullitine, fibreshear etc.
- Use wet sanding / cutting techniques
- Use a saw equipped with a dust reducing blade and vacuum extraction (must be a HEPA filter).
- Use a P2 or 3 mask that fits well.

Where workers are exposed to potentially dangerous levels of silica Lung Function testing is often recommended. Talk with your Safety Advisor.

Controlling the Risks on Our Site.

Construction work can produce silica dust. Exposure to silica dust is dangerous and can cause serious lung disease.

- What products are we using that contain Silica? How can we eliminate / reduce the amount of dust?
- What tasks am I doing where I could be breathing in Silica into my lungs?
- Have we accounted for clean-up?

What's Gone Wrong here?



Appropriate controls MUST be in place for Silica.