WORKSAFE
Mahi Haumaru Aotearoa

HSWA

SAFETY ALERT

March 2024

Accelerated silicosis

This safety alert highlights the serious health and safety risks of exposure to high levels of respirable crystalline silica (RCS) for those who work in the stone benchtop industry.

What happened?

Cases of silicosis began to be identified in people working with engineered stone benchtops in Queensland, Australia, in 2015. Since then, cases of chronic silicosis and probable or possible accelerated silicosis have been diagnosed in engineered stone workers in New Zealand.

Silicosis is an irreversible and progressive disease that causes fibrosis of the lungs from the inhalation of RCS.

Accelerated silicosis is a form of silicosis which develops over a short period (usually 3 to 10 years) from inhalation of very high concentrations of RCS. There are limited treatment options for advanced disease.

What we know

Engineered stone benchtops have become increasingly popular for kitchens and bathrooms. They are made by mixing finely crushed rock with a polymeric resin, then moulding into slabs and heat-curing. The silica content of engineered stone may exceed 90%, which is much higher than natural stones.

Workers may be exposed to RCS while cutting, grinding, sanding, drilling and polishing stone benchtops during fabrication and installation.

Our advice

Our advice covers all situations where work is being undertaken with engineered stone, including at the fabrication workshop and when installing on the client's site.

Before starting work using engineered stone, businesses must complete a risk assessment and review their controls. **Uncontrolled cutting, grinding, sanding, drilling and polishing of engineered stone is unacceptable and must not be undertaken**.

Options for minimising exposure include:

- substituting engineered stone for materials with a lower silica content
- isolating work areas or tasks that generate dust using physical barriers or computer numerical control (CNC) machines
- using engineering controls, such as local exhaust ventilation (LEV), water suppression (wet cutting), or on-tool dust extraction attachments. Wet sprays should be controlled by guards to prevent material becoming airborne, and wet waste or slurry must be managed. RCS is an H-class hazardous dust and an H-class LEV system or H-class vacuum cleaner fitted with an appropriate filter should be used. Any LEV must be effective, fit for purpose, installed, set up and used correctly and maintained so that it remains effective
- further minimisation controls include administrative controls, such as good housekeeping practice (wet wiping, using an H-class vacuum fitted with an appropriate filter, and low-pressure water cleaning – dry wiping, sweeping, the use of compressed air, and the use of high-pressure water is not appropriate).

WSNZ_4695_FEB 24

If a risk still remains, use the appropriate personal protective equipment:

- use a suitable respirator with a filter cartridge with the appropriate assigned protection factor; the appropriate respirator and filter cartridge combination will be informed by exposure monitoring. Given the risk to health if any risk minimisation controls fail, WorkSafe expects respiratory protective equipment to be used by workers who fabricate or install engineered stone, or maintain or clean areas where work with engineered stone has occurred
- ensure the respirator is fit-tested for the worker, cleaned, maintained and stored properly
- wear suitable work clothing such as coveralls that are disposable or can be laundered at the workplace to avoid taking them home.

Exposure monitoring

The current WorkSafe Workplace Exposure Standard (WES) for crystalline silica (all forms) can be found here: Workplace exposure standards and biological exposure indices

You can engage an occupational hygienist from the New Zealand Occupational Hygiene Society (NZOHS) or from the Health and Safety Association of New Zealand (HASANZ) Register to measure RCS concentrations and to help evaluate risks to worker health, and the effectiveness of controls.

Response

Since 2019 WorkSafe, ACC and the Ministry of Health have worked with medical and health and safety professionals on a coordinated response for exposed workers in New Zealand. The accelerated silicosis assessment pathway sets out the process for people at risk of accelerated silicosis to be identified and have their health assessed.

People who have worked with engineered stone for at least six months in the last 10 years may be eligible for a health assessment. Further information is here: Health information for workers in the engineered stone industry

Guidance

We provide further guidance related to accelerated silicosis and the control of silica dust:

- Accelerated silicosis
- 8 key things for workers to know: Controlling silica dust in the workplace
- Silica dust in the workplace
- Controlling dust with on-tool water suppression
- Controlling dust with on-tool extraction
- Industrial vacuums and portable extractors for hazardous dusts
- Respiratory protective equipment (RPE)
- Health and exposure monitoring

Document history

This safety alert was first issued in May 2019 and updated in November 2019. It was subsequently updated in March 2024.