

Better the Devil you Know? Should engineered stone be banned in New Zealand?

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Introduction

The increased popularity of engineered stone in kitchens is considered a causal factor for the global rise in accelerated silicosis cases. Workers of this material are exposed to respirable crystalline silica (RCS)¹, which can be at levels of 90% in engineered stone. In response to this emerging public health issue, Australia has issued a complete ban on its importation and use. New Zealand currently has a workplace exposure standard of 0.025mg/m³, should we follow Australia's lead and ban engineered stone completely or can we successfully manage the risk to workers?² Using anonymized data from three individual worker exposure assessments, we consider the issue.

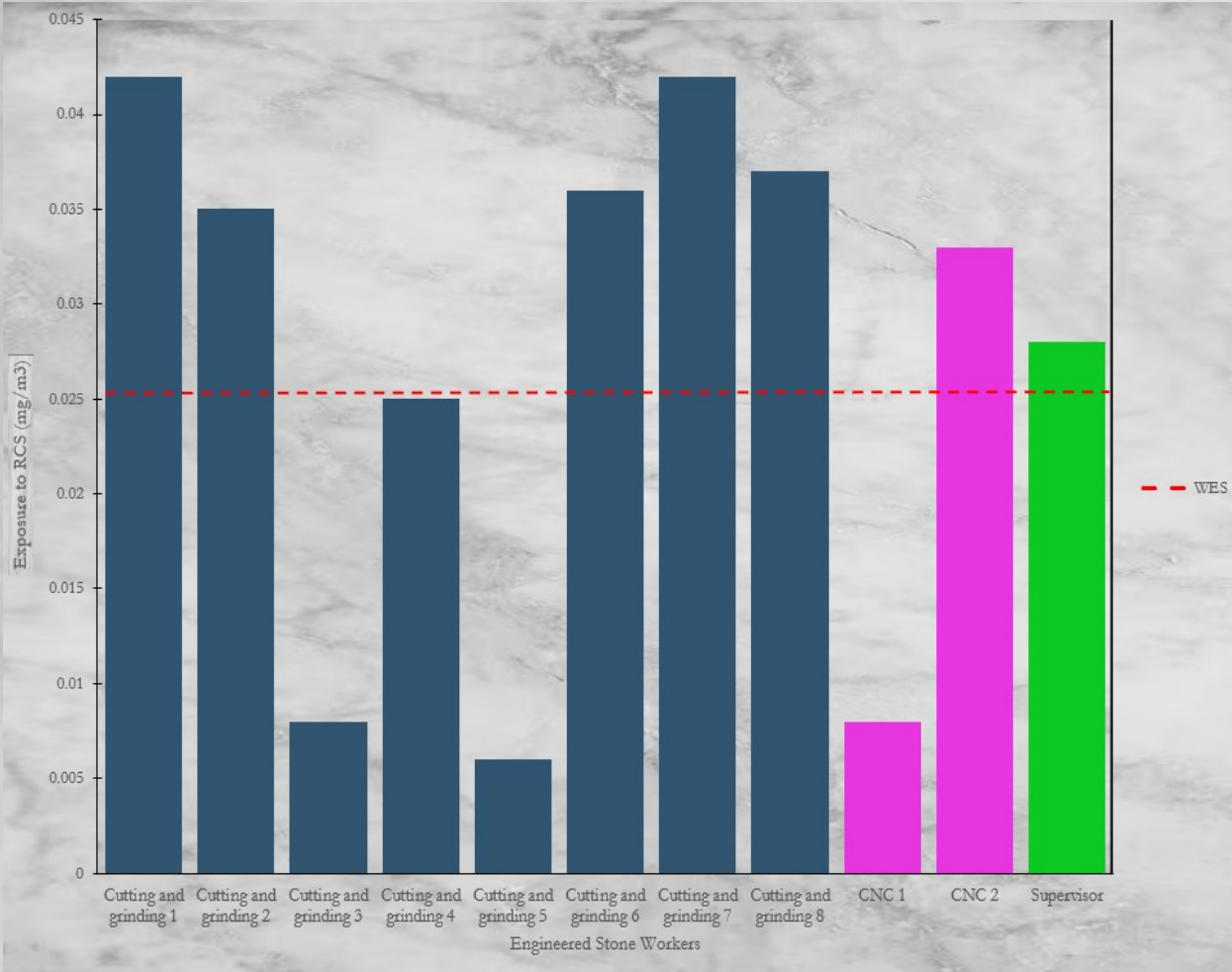


Figure 1. RCS exposure of various engineered stone workers

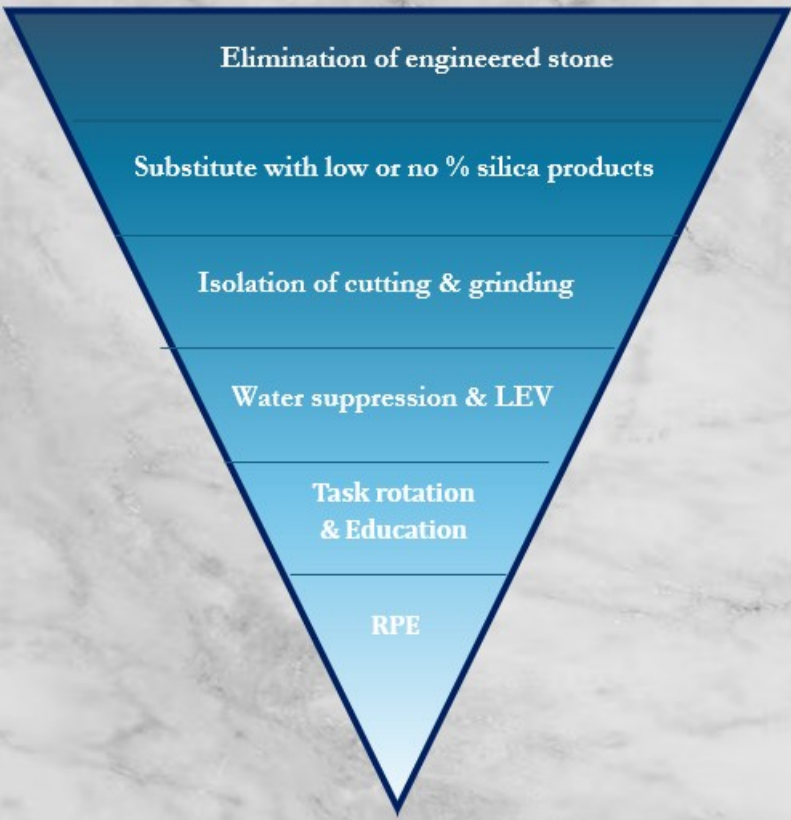


Figure 2. Hierarchy of Control

Retrospective analysis of RCS exposure (N=11). Different colours = different SEGs. For Cutting and grinding SEG (n=8) There is significant risk of exposure above the current Worksafe New Zealand WES of 0.025 mg/m³ (fig. 1). Individual exposures indicate wide variation with some workers having very low levels. The lower levels could indicate better controls or working practice as well as differing workloads on the day of the monitoring. CNC workers (n=2) also showed variation above and below the WES, however there were not enough sample results for these or the supervisor role to conduct a statistical analysis.

If we don't ban/eliminate the use of engineered stone, what can we do? Effective controls as displayed in figure 2, following the hierarchy of controls should be implemented.

Summary

With this retrospective analysis it is not possible to compare what was happening on the day of data collection and as such, it was not possible to draw a conclusion based on the data alone. However, it is our professional opinion that banning engineered stone will increase demand for alternatives with acceptably low silica levels, such as timber or natural stone, concrete or synthetic alternatives which either bring their own risks such as wood dust exposure or have little longitudinal data available to understand whether the risk of exposure may cause similar issues to asbestos or RCS in the future. It is worth noting that BOHS does not advocate for an outright ban, and other international occupational hygiene bodies have not made position statements but have said Australia's ban is an important catalyst for future discussions. Whatever regulatory bodies decide, success hinges on robust regulatory frameworks, industry support, and widespread adoption of safer materials.

Reference: Edwards, G.M., 2022. Silicosis—lessons from Australia's Dust Diseases Taskforce (2019–21). *Occupational Medicine*, 72(6), pp.354-356.

WorkSafe, 2022. *Silica-Crystalline (all forms)*. [Online] Available at: <https://www.worksafe.govt.nz/topic-and-industry/monitoring/workplace-exposure-standards-and-biological-exposure-indices/all-substances/view/silica-crystalline-all-forms> [Accessed 13 04 2025].