# SUBMISSION

## Decision Regulation Impact Statement:

## Managing the risks of respirable crystalline silica at work

## Your details

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**Defining the problem**

**Developing a better understand of the Risk**

It is our belief that a comprehensive identification of the problem has yet to be achieved. It is important to note that measuring the mass of dust exposure alone via gravimetric analysis does not necessarily provide an accurate indication of the toxicity of the dust. Various factors such as particle size, shape, surface chemistry, and mineralogy can significantly impact the associated health hazards. For engineered stone products this may also include other health hazards present in the resins used to bind the products.

Characterizing the dust through an examination of its size, shape, and mineralogy is imperative. For instance, the characterization of quartz particles has revealed the formation of micro-agglomerates, as demonstrated by Mineral Liberation Analysis (MLA) particle characterisation analysis using the Minerals Liberation Analyser of samples taken from underground coal mines in Queensland. Hence, it is crucial to understand that the issue at hand is not limited to exposure to a mass of silica dust based on gravimetric or even specific chemical analysis such as Fourier Transform Infrared Spectroscopy (i.e., FTIR analysis).

**Option 2 Education Campaigns should include work practices as well as health information**

Communication and consultation with workers and other relevant parties is essential for effective risk management. We believe that an education campaign is important for workers and have some suggestions for how to make this as impactful as possible. The Queensland coal industry has undergone a notable transformation, and a key factor contributing to their success in mitigating dust exposures has been the high level of collaboration across various departments, including ventilation officers, technical services, and hygienists. This collective effort has resulted in a significant reduction in dust exposures, achieving levels that are deemed reasonable and achievable.

In contrast, the artificial stone industry mainly comprises of small-scale operators who often perform multiple tasks without the support of a dedicated occupational health and safety (OHS) professional or access to an occupational hygienist. It is imperative that dust control resources be developed for this industry, including those specific to the tools used in their operations. The NIOSH RI 9701 Dust Control Handbook for Industrial Minerals and Processing is an excellent example of such a resource, which was the product of a collaborative effort between industry and government.

To further enhance the effectiveness of these resources, it is recommended that a series of short videos be created to assist small business owners and workers in the industry, including those with literacy or language barriers. These videos should be designed to enable SMEs and workers to quickly access information related to the generation of dust from specific tasks and the most effective methods for controlling it. Videos and images have been shown to be a more effective means of communication for this type of information.

**We recommend a combination of options 2, 4, and 5b with continued investigation of option 6**

We support a comprehensive approach that encompasses better protection for all workers exposed to respirable crystalline silica (RCS) dust regardless of the source (i.e., engineered stone or natural stone). We see the need for a combination of responses to the problem including options, 2, 4 and 5b with the continued investigation of option 6.

Despite the potential lead time for option 4, we believe it offers the best legislative response to improving the management of workers' exposures to RCS in the engineered stone industry. As per Table 3 of the Decision Regulation Impact Statement, we agree with the statements that there has been a "lack of compliance with current regulatory requirements" and "the WHS regulators may be unable to adequately ensure compliance with the model WHS laws". These findings provide support for the argument to adopt option 4, which should provide tighter management of PCBUs using engineered stone.

We also support further investigation into option 6 as eliminating or substituting materials containing crystalline silica is the most effective control measure for managing the risks of crystalline silica exposure in the workplace. However, we need to ensure that what we substitute with is not presenting another hazard. A prohibition should also result in industry innovation, bringing no or very low silica content products to the market to fill the gap.

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**Registry of Exposure Levels**

Exposure levels should be audited and reviewed by the regulator. This should include spot checks and regulatory inspections. Companies should submit regular reports to a registry. The establishment of a registry to store regularly collected occupational exposure data can yield significant advantages for the management of hazardous exposures. However, the registry must be adequately staffed and resourced to ensure its usefulness. Specifically, a designated individual or team should be assigned to receive, review, and report on the collected data and take action as appropriate. Without proper vetting and maintenance, the data quality may be compromised, resulting in a situation of "garbage in, garbage out", rendering the registry futile and wasteful of valuable time and resources.

**We believe higher level engineering controls are important in controlling exposure**

There is a need for further research, with a reasonable proportion of research funding dedicated to prevention and controls. This entails focusing on higher order controls such as elimination, substitution, and engineering controls, with more emphasis on the preventative controls on the left side of the bow tie.

Sufficient funds should be allocated for prevention and the development of higher order controls for the workplace. A multidisciplinary and holistic approach is required, as no single group of professionals possesses all the necessary expertise. It is crucial to involve engineers, equipment manufacturers, maintenance experts, and other relevant stakeholders in the prevention efforts.

Furthermore, it is critical to ensure that the controls implemented are appropriately maintained to prevent dust levels from exceeding acceptable levels.