



**Lung
Foundation
Australia**

Safe Work Australia

Public consultation on the prohibition
on the use of engineered stone

April 2023



Lungfoundation.com.au



Executive summary

Lung Foundation Australia (LFA) are pleased and thank Safe Work Australia for considering stakeholder feedback regarding an additional option—Prohibition on the use of engineered stone. LFA were appreciative with the recent communique (28 February 2023) where Work Health and Safety Ministers affirmed their shared commitment to prevent worker exposure to respirable crystalline silica and endorsing a coordinated national approach to address this issue amongst other silicosis announcements.

As the peak lung health organisation, we are proud to advocate for the prevention of occupational lung diseases, as well as supporting those diagnosed with these conditions and investing in research, with occupational lung disease being a core component of LFA's work.

We have,

- developed a range of resources and services for employers, workers and people living with an occupational lung disease;
- delivered a national awareness campaign about lung health in the workplace; and,
- been appointed to develop the National Silicosis Prevention Strategy (NSPS) 2023-2028; and, accompanying National Action Plan (NAP), on behalf of the Australian Government Department of Health and Aged Care.

Lung Foundation Australia continue to call for a ban on engineered stone. Existing regulatory controls have been ineffective in protecting workers and that reform is urgently required. **LFA believes that the only way to truly protect workers is to ban engineered stone in Australia.**

In addition to a ban on engineered stone, LFA reiterate our recommendations provided in the SWA Consultation RIS August 2022, where we supported the establishment of a licensing scheme, among other actions, and believes this is entirely actionable in the short term. LFA commends SWA for further consulting on the best approach to protecting workers from silica, but note the lack of timely, targeted, coordinated action and commitment to protect workers from silica dust has failed to keep workers safe from harmful exposures, identify those who may be at risk of diseases, and to support workers diagnosed with silicosis or related diseases continues. The impact of this inaction should be acknowledged, with workers, their families and communities irreversibly impacted. LFA encourages SWA and Australian governments to accelerate their decision-making to prevent unnecessary silica-related diseases from occurring. Action is needed now, and a ban on engineered stone is an essential part of the way forward in Australia, putting people before profits.

Lung Foundation Australia remain committed to working with governments, unions, regulatory agencies, researchers, health professionals, community and other, to prevent lung disease and provide the essential support needed to those experiencing silicosis and other occupational lung diseases – all of which are entirely preventable.

Yours sincerely,



Mark Brooke

CEO

Lung Foundation Australia

About Lung Foundation Australia

Lung Foundation Australia (LFA) is the only national charity and leading peak-body dedicated to supporting anyone with a lung disease including lung cancer. For over 31 years we have been the trusted national point-of-call for patients, their families, carers, health professionals and the general community on lung health. There are over 30 different types of lung disease currently impacting 1 in 3 Australians.

Our mission is to improve lung health and reduce the impact of lung disease for all Australians. We will continue working to ensure lung health is a priority for all, from promoting lung health and early diagnosis, advocating for policy change and research investment, raising awareness about the symptoms and prevalence of lung disease, and championing equitable access to treatment and care.

As a patient representative charity, we have partnered with patients, health professionals, researchers, medical organisations, and the Australian community to drive reform in the delivery of health services in Australia to benefit more than 7 million Australians impacted by lung disease and lung cancer.

Lung Foundation Australia's work in occupational lung disease

The prevention of occupational lung diseases, as well as supporting those diagnosed with these conditions, is a core component of LFA's work.

The National Strategic Action Plan for Lung Conditions (NSAPLC) highlights occupational lung disease as one of eight priority lung conditions and furthermore, identifies workers currently and previously exposed to occupational dusts, gases, fumes, and vapours as one of several priority population groups. Through the NSAPLC, we have:

- developed a digital Occupational Lung Disease National Directory of relevant resources and support programs and services for employers, workers and people living with an occupational lung disease;
- developed a "Healthy Lungs at Work" online lung health questionnaire for workers who may be exposed to hazardous agents in the workplace, helping them to identify risks, reflect on their current lung health, and makes recommendations on where to find more information or what steps can be taken;
- various fact sheets, booklets, and digital resources for those at risk of and living with occupational lung diseases; and,
- delivered a national awareness campaign during National Safe Work Month to raise awareness amongst both employers and workers of the risks to lung health in the workplace.

In January 2022, LFA were commissioned by the Department of Health and Aged Care to develop the National Silicosis Prevention Strategy (NSPS) and accompanying National Action Plan (NAP). The goal of the NSPS and NAP is to prevent and ultimately eliminate silicosis as an occupational disease in Australia. The NSPS and NAP covers all industries, occupations, and tasks where workers are at risk of silica-related diseases across workplaces of all sizes.

Principles which underpin the NSPS and NAP include:

- **Workers right to a healthy and safe working environment:** All Australian workers have the right to a healthy and safe working environment, regardless of their occupation or how they are engaged.
- **An All-of-Governments and Whole-of-Government Approach:** coordinated, decisive action and leadership by the Commonwealth, and state and territory governments; and comprehensive, coordinated action across government departments and portfolios.
- **Working in Partnership:** cooperation between stakeholders, and deliberate action by all including Commonwealth, state, and territory Health departments, WHS policy agencies and regulators, industry, and unions.
- **Evidence-base for Silicosis Prevention:** action is evidence-informed where knowledge exists, with a focus on generating new knowledge to address gaps.

Within the NSPS and NAP there are five priority areas for action:

1. Workplace risk reduction
2. Education and awareness
3. Health monitoring and surveillance
4. Governance, regulation, and legislation
5. Research and development

Each of the five priority areas for action include activities, timeframes for implementation, success measures and outcomes, which we are calling for all invested stakeholders to implement. These priority areas for action have been developed as a result of extensive consultation with a range of stakeholders where one universal truth was apparent: to date, there has been a systematic failure by Government to protect workers from this deadly yet entirely preventable disease. As part of the NSPS and NAP, we are calling for a national, harmonised licensing scheme across all industries exposed to silica dust. It is clear that the inconsistency of application across states and territories is ineffective and will not lead to a reduction of silicosis cases, let alone elimination of cases.

It should be noted that there is significant frustration across the sector with the silicosis prevention being highly disjointed. It is not just a health issue or just a work health and safety issue—it is a whole-of-government issue that requires a whole-of-government response. Having three separate responses, a:

1. National Silicosis Prevention Strategy—Health;
2. Regulation Impact Analysis—Work Health and Safety; and
3. Monitoring and Evaluation Framework—Health

to the same issue highlights segregations that only complicate the response.

Health impacts

Silica dust particles when inhaled can travel deep into the lungs and lead to a range of respiratory diseases other than silicosis, including Chronic Obstructive Pulmonary Disease and lung cancer. Silica dust increases the risk of developing chronic kidney disease, autoimmune disorders, and other adverse health effects, including an increased risk of activating latent tuberculosis, eye irritation and eye damage.

The true incidence of silica-related disease is currently unknown, but studies have made a number of estimations. Following the release of the RIS, a report was published that estimated that without action, Australian workers would develop more than 10,000 future lung cancers and almost 100,000 silicosis cases during their lifetime due to their exposure to silica dust¹.

This is around 1% of all future lung cancers in the Australian adult population. The study also noted that banning artificial stone would reduce silica exposure and could prevent 100 lung cancers and almost 1,000 silicosis cases over the lifetime of these workers. Unfortunately, a ban on silica dust in other industries such as mining isn't presently possible. However, exposure can be significantly reduced. According to this report, stopping workers from entering areas near crushers on mine sites would prevent 750 lung cancers and almost 7,500 silicosis cases. If exposure was reduced in the mining industry to that experienced by the general population, more than 2,300 lung cancers and over 20,000 silicosis cases would be prevented.

In addition to the physical health impacts, the psychological impacts of silicosis are also significant. From interviews conducted with patients as part of the NSPS and NAP (unpublished), patients report feelings of anxiety and depression, as well as a fear of the future—whether that's "what's next" in terms of physical symptoms, or how their family will cope when they are gone. Patients also report frustration at not being able to do what they used to—even with relatively simple tasks such as lawn mowing—and having to rely on others for help.

Consultation: Public consultation on the prohibition on the use of engineered stone

The following is Lung Foundation Australia (LFA)'s response to the public consultation on the prohibition on the use of engineered stone.

1. Do you support a prohibition on the use of engineered stone? Please support your response with reasons and evidence.

LFA supports the prohibition on the use of all engineered stone.

All Australians should be able to work in an environment free from harm. With over 13 million workers in Australia, and occupational lung disease typically under-recognised and causing respiratory ill health, we need to ensure that the health of those at risk are protected and supported. The resurgence of silicosis—an entirely preventable and life limiting lung condition that is often fatal—highlights the real need for and importance of effective prevention, early detection, monitoring and reporting for occupational lung disease.

Lung conditions and lung cancer have an enormous employment and productivity impact through time away from work and lower effectiveness—greater workplace awareness, education and effective monitoring and controls aligned with the hierarchy of controls is greatly needed.

The 2006 Senate Inquiry—*Workplace exposure to toxic dust*—stated that

Silica has been under surveillance for many decades, and the morbidity and mortality of large populations of heavily exposed individuals have also been studied over many decades. Clinical silicosis is now a rarity, and elevated risk of lung cancer appears to be confined to cases where the silica exposure is of such a level that it results in clinical silicosis. Based on the number (say 10-30) of new cases of silicosis, this would amount to only 1 or 2 additional lung cancer cases per year across Australia².

This is simply untrue. As of May 2022, health screening conducted by some jurisdictions has indicated that one in four engineered stone workers who have been in the industry since before 2018 are suffering from silicosis or other silica dust related diseases³. This is highly concerning as it has been previously stated in this submission, and many others, that silicosis can be prevented but new products, lax regulations, and a failure to have a proactive and nationally coordinated approach are resulting in new cases.

Through LFA's role in developing the *National Silicosis Prevention Strategy* and accompanying *National Action Plan*, which has involved extensive consultation, we highlight:

- there is need for a national licensing scheme that is harmonised and effective across all sectors (not only the stone-benchtop industry);
- that inconsistencies of application across jurisdictions are ineffective and will not lead to a reduction in silicosis cases; and,
- that there is frustration among stakeholders that the current efforts to address silicosis are disjointed and there is lack of ownership and responsibility being taken by agencies.

A coordinated, strong, and ambitious action to protect Australian workers is desperately needed by prohibiting the use of engineered stone. Every year coordinated action is delayed, workers are at risk of developing a life-limiting lung disease, and that is simply unacceptable.

2. If yes, do you support a prohibition on the use of all engineered stone irrespective of its crystalline silica content? Please support your response with reasons and evidence.

LFA supports a prohibition on the use of all engineered stone irrespective of its crystalline silica content. Like asbestos, there is no evidence to support a safe level of crystalline silica⁴. As the peak lung health organisation, we strongly urge SWA and Australian governments to take the precautionary approach and learn from lessons of the past and implement a ban.

Although various jurisdictions have set arbitrary limits on what is acceptable, we highlight that even small amounts of crystalline silica particles can cause multiple and incurable diseases⁵. Further, in the process of reducing silica content of manufactured stone there can be a range of other additives that are harmful to lung health that cannot be discounted (e.g. VOCs). We think it is essential to put the health of workers first, and note that there are health and economic benefits by prohibiting the use of all engineered stone (see Table 1).

Table 1: Health and economic benefits of the prohibition of engineered stone

Health benefits	Economic benefits
<ul style="list-style-type: none"> • Reduction in premature deaths from silicosis and silica-related diseases. • Reduced time workers would spend living with silicosis and/or silica-related diseases, owing to reduced incidence of disease and later onset of disease. • Reduced silicosis and silica-related health care costs, including hospitalisations and treatment. 	<ul style="list-style-type: none"> • Should workers become displaced, it is reported that there is 47% of occupations within the <i>technicians and trades</i> industry identified as a shortage (e.g., cabinet makers, carpenters, metal fabricators and bricklayers). • Forecast growth in employment among labourers may provide opportunities to address worker shortages which may create a smooth transition for displaced workers who do not wish to undertake formal training.

3. If no, do you support a prohibition of engineered stone that contains more than certain percentage of crystalline silica? If yes, at what percentage of crystalline silica should a prohibition be set? Please support your response with reasons and evidence.

The current state of play with respect to differing WHS regulations, registers, etc. is accurate within the RIS, and reinforces that there is a current lack of harmonisation across jurisdictions. The All-of-Government response to the Taskforce's Recommendations clearly shows Australian state and territories are responding at their own pace with a wide range of approaches. LFA commends SWA for the inclusion of Option 6 as a lack of coordination and individual approaches by states and territories is creating significant challenges and barriers to Australian workers to safely perform at work.

Based on available literature and evidence, LFA is unable to determine a percentage that is "safe" to protect a worker, and reiterate the information provided in the submission by the Australian Institute of Occupational Hygienists. Fundamentally we believe a ban of manufactured stone is the only option but should a threshold value absolutely need to be placed, LFA would cautiously support <10% but notes that this still places the worker's health at risk and as a result believes a decision like this must be accompanied by a short review period, significant health monitoring and research investment. Additionally, we note that a decision to include a threshold value requires jurisdictional regulators and workplaces to operate a high degree of regulation and monitoring with compliance by employers and workers. This is currently not happening in practice and the industry has been on notice since 2019. Based on this, LFA would see that in the long term, a ban would be more feasible and less cumbersome on agencies and regulators to monitor industry for poor practices that may still arise.

4. How many businesses work with engineered stone only?

LFA is unable to provide this information and would expect states and territories to provide an audit of the number of workplaces impacted to understand the scope, size, and impact of the problem. Without this information, some doubts are cast over the economic modelling provided. Health impacts are often understated, and we reiterate this.

5. How many businesses work with both engineered stone and non-engineered stone products?

LFA is unable to provide this information. LFA would recommend a more detailed auditing process to take place to understand the size and scope of the problem with states and territories to be involved.

6. Do you have any data or information on the risks to workers from the other non-crystalline silica elements of engineered stone? Are these risks increased in engineered stone of less than 40% crystalline silica content?

The Centres for Disease Control and Prevention (CDC)⁶ reports that

No known health effects are found from exposure to crystalline silica at the levels normally found in the environment.

and

There are no known health effects from exposure to amorphous silica at the levels found in the environment or in commercial products (food additives and wrapping, toothpaste and cosmetics).

Furthermore, the CDC reports that there are presently no known health effects from exposure to non-crystalline silica elements (known as amorphous silica) but does concede that some reports suggest non-crystalline silica products can cause respiratory diseases (but not silicosis)⁷ as reported in the Merget et al study⁸.

We do reiterate the information provided by AIOH in their submission and note that in the process of reducing silica content of manufactured stone the additives mixed can also pose a significant risk to health. As such we urge caution on the assumption that reducing silica content of manufactured stone eliminates risk of occupational lung disease.

7. In relation to Option 3, do you have:

- a. any information on the additional benefits of a licensing scheme over the enhanced regulation agreed by WHS ministers (Option 5a) that would already apply to engineered stone products containing less than 40% crystalline silica content?
- b. feedback on the implementation of concurrent licensing schemes for both prohibited engineered stone and non-prohibited engineered stone?

LFA, as previously submitted, recommends Safe Work Australia implements Option 5b (Regulation of high-risk crystalline silica processes for all materials excluding engineered stone), Option 4 (Implementation of a national licensing framework for PCBUs working with engineered stone) and Option 2 (National awareness and behaviour change initiatives to minimise the risks of RCS exposure) in combination⁹. These options will cover:

- increasing awareness and behaviour change initiatives.
- a national licensing framework for engineered stone.
- additional regulation of defined high risk crystalline silica processes across all sectors.

Given the burden of silica-related disease in Australia (and that it is entirely preventable) it is both justifiable and necessary to implement all three options at a minimum.

There are presently two licences in place—the removal of both friable and non-friable asbestos and the removal of only non-friable¹⁰—and the prohibited engineered stone and non-prohibited engineered stone could follow this process. There are already processes in place for a like-material which had similar health consequences for workers, it is not unreasonable to expect a similar process for prohibited engineered stone and non-prohibited engineered stone to be implemented.

Development and implementation of a national licensing framework to support the introduction of jurisdictional licensing schemes for businesses working with engineered stone should effectively achieve many prevention goals¹¹. Licensing would restrict access to the product to those businesses that can demonstrate the ability to effectively manage the risks associated with engineered stone, by implementing necessary controls and educating their employees. A national licensing framework would support the introduction of jurisdictional licensing schemes for businesses working with engineered stone. Licensing would need to span across the supply chain to be effective and be enforced by WHS regulators, with a publicly available database of licence holders¹².

WorkSafe Victoria introduced an engineered stone licence requirement in 2021 which allows businesses (either an employer or self-employed person) to work with engineered stone (noting LFA believes the 40% is too high and not supported by LFA) if they meet the necessary safety requirements¹³. LFA recommends that this be reviewed and scaled to a national licensing scheme with a significant reduction to <10%. LFA notes that this is not without risk and significant coordination and compliance from industry is needed.

Safe Work Australia's 2022 Consultation Regulation Impact Statement, *Managing the risks of respirable crystalline silica at work*, includes consideration of a national licensing framework for PCBUs working with engineered stone. It notes that a system developed to administer a licensing framework could also be used to collate health and air monitoring data¹⁴.

Measuring workers' exposure to RCS via **air monitoring (or exposure monitoring)** is necessary to establish compliance with the WES for RCS and to determine if control measures are working as planned. Exposure monitoring to determine a worker's exposure involves measuring the level of silica dust in the breathing zone of workers using a personal sampler during their usual shift activities (including routine breaks) and is performed by an occupational hygienist¹⁵.

8. Are the assumptions and scenarios described for Option 6 in the Decision RIS accurate and appropriate? If not, why? Please provide additional information to support the impact analysis.

LFA is unable to comment on the size or scope of industry impact as outlined in the Decision RIS. Any compensation paid by the Government to impacted businesses and workers is negated by the notion that these healthy workers will be able to either:

1. retrain / upskill to obtain qualifications for another trade;
2. move to another unskilled profession; or,
3. remain unemployed in the medium to long term.

Although the third scenario is far from ideal, modelled costs¹⁶ estimates that:

- \$14,022,857 in compensation payments (including medical costs, an indicator of potential cost) per annum
- 305 hospital days per annum
- 60 lives per annum

LFA acknowledges that for some businesses there will be a financial burden, we know that preventing exposure to silica-containing products is the most effective way to prevent silica related health impacts in the Australian stonemason industry and other at-risk industries. High silica content engineered stone is not manufactured in Australia. Banning its importation is a practical solution. It is estimated that banning engineered stone would save lives by preventing approximately 10,000 lung cancers and 1,000 silicosis cases, which would result in significant reduction in disability adjusted life years (DALY), years of life lost (YLL), and health system costs.

As part of this important RIS process, the figures associated with a total ban are needed, and when there are workers lives on the line, we cannot afford to continue to delay action and conduct a second RIS exploring a ban with exploration only to begin in 2024. Therefore, if SWA remain unconvinced of the overarching benefit of a ban we encourage SWA to conduct further modelling. The RIS also articulates the health and economic benefits (pg. 69 to 70) and that the approach to develop a more complete cost analysis is supported by LFA.

9. Are there any other options or issues you think should be considered for a prohibition on the use of engineered stone?

Although this submission is only considering a ban on engineered stone, LFA notes that there are many materials that contain crystalline silica including¹⁷:

- natural stone products such as marble or granite benchtops
- asphalt
- cement, mortar, and grout
- concrete, concrete blocks, and fibre cement products
- bricks, and
- pavers and tiles including roof tiles.

It would be irresponsible for LFA to ignore these products as they also can lead to devastating impacts for Australian workers, not just those in the engineered stone industry. Therefore, LFA has included these materials and would like them to be considered with stronger regulatory controls around dust at the source and health monitoring.

Engineering controls such as mandatory wet cutting and on-tool dust extraction would save lives; however, a complete ban of engineered stone is clearly the most effective intervention. We need to immediately identify the most effective ways to implement a ban on the use of high silica content engineered stone and to support industry acceptance and utilisation of safer substitutes. LFA recommends a total ban by July 2024 or sooner which is in line with recommendation 1D of the National Dust Disease Taskforce Report and the Draft NSPS (available online).

We believe this is feasible, and further delays of this decision is increasing the number and likelihood of Australians being exposed to this carcinogen and experiencing a debilitating and life-limiting lung disease. Workers continue to be exposed and experience poor health outcomes while action has been delayed over a number of years.

The Taskforce's Final Report made a clear recommendation that if other measures do not result in a measurable and acceptable improvement then a ban should be considered—which is something that has been done before with other hazardous agents (asbestos)—and when considering the hierarchy of controls, eliminating the hazard in its entirety is the most effective control. In addition, while a ban will not address the risk of silica-related disease for other industries, it is imperative to note the difference in exposure and silica content across industries. Engineered stone contains up to 97% of silica, placing exposed workers at an extremely high risk of disease, evidenced by the high rates seen among stone-benchtop workers. A ban should not be discounted as a regulatory option for engineered stone simply because it will not also have benefits on other industries—it should be done in combination.

LFA would like the following recommendations to be considered.

Additional recommendation #1: Updating health monitoring requirements

LFA encourage stronger requirements around the adoption of low dose high-resolution computed tomography (CT) scans and enhanced respiratory function testing be included, wherever practicable, as the minimum requirement for health monitoring¹⁸. Under section 4.8.2 of the RIS it was noted that the replacement of chest x-ray with low-dose high-resolution CT as the minimum regulatory requirement was not feasible. The Taskforce's Final Report recommended that a regulatory impact analysis (RIA) be conducted to identify and decide on implementation of measures that provide the highest level of protection to workers from the risks associated with silica inhalation in the engineered stone industry. The report also stated that the RIA must consider strengthening these health monitoring requirements with respect to low dose low-dose high-resolution CT, and to cover all workers at risk of exposure.

For silica-exposed workers, low-dose high-resolution CT scans are more effective than chest X-rays in detecting early lung changes indicative of silicosis. Based on this evidence, on 15 January 2021, the Western Australia Government passed legislation making low-dose high-resolution CT scans mandatory for workers whose health is at risk following exposure to silica. While Western Australia is currently the only state in Australia where it is mandatory for workers exposed to silica dust to be provided with a low-dose high-resolution CT scan as part of their health surveillance, a trial of low-dose HRCT is being undertaken in Queensland with retired mine workers. Other than Western Australia, all other states require chest X-rays.

LFA encourages nationally consistent legislation for the health surveillance of workers exposed to silica. It is important to recognise that with the transient nature of the workforces involved, many do not experience symptoms until they have left the industry or many years later during their retirement. To be effective a whole of Government, industry, community, and business response is required; that follows health and OHS evidence and the most up to date research; that is independently monitored and transparently and frequently reported on; and at its core has the prevention of death and disability at the centre.

This is consistent with the direction of a national targeted lung cancer screening program recommended by Cancer Australia and approved by the Medical Services Advisory Committee. Further, LFA notes that it is infeasible to expect employers, many of whom do not

comply with existing obligations under the WHS Act, to voluntarily opt for a higher-cost method of health monitoring for their workers. We know that low-dose high-resolution CT is more effective in detecting lung disease, and we reiterate that the earlier changes are detected in the lungs, the better the health and economic outcomes can be.

It is LFA's view that this option did not balance the economic cost of late-stage diagnosis and disease, and this is an error in the economic modelling.

Additional recommendation #2: Adopting a health-based workplace exposure standard (WES)

It is noted that within the Decision RIS that there was uncertainty in the measuring levels of RCS below 0.05mg/m³ over an eight-hour period with a further reduction not considered as feasible¹⁹. LFA does not agree and supports the adoption of a health-based workplace exposure standard (WES) for RCS of 0.02 mg/m³ measured over an 8-hour period and enforcing the exposure limit. The WES should be adopted in every jurisdiction and enforced via a rigorous workplace inspection program. This will help provide Australian workers with the level of protection they deserve. The current WES of 0.05mg/m³ is not a health-based standard. Implementing this health-based standard will provide better protection for workers than the current WES, but only when it is adhered to.

The measurement issues being raised as an argument against lowering the WES to 0.02mg/m³ must be addressed as a matter of priority, with research funding being provided for the development of new sampling/analytical techniques if necessary. There is evidence that the proposed exposure limit of 0.02mg/m³ can be measured with minimum detectable concentrations ranging from 0.005 to 0.01mg/m³ over an 8-hour period^{20,21 & 22}.

10. Should there be a transitional period for a prohibition on engineered stone? If so, should it apply to all options and how long should it be?

LFA is taking a strong stand and does not believe there should be a transitional period. LFA recommends a total ban by July 2024 or sooner which is line with recommendation 1D of the National Dust Disease Taskforce Report and the Draft NSPS (available online).

LFA believes this is feasible, and further delays of this decision is increasing the number and likelihood of Australians being exposed to this carcinogen and experiencing a debilitating and life-limiting lung disease.

11. Do you have any evidence or data on the number of cases of the other silica-related diseases (such as lung cancer, chronic obstructive pulmonary disease, kidney disease, autoimmune disease) attributed to exposure to crystalline silica from engineered stone?

As previously submitted (Attachment 1: 220815_LFA SWA CRIS - Managing the risk of respirable crystalline silica), silica dust particles when inhaled can travel deep into the lungs and lead to a range of respiratory diseases other than silicosis, including Chronic Obstructive Pulmonary Disease and lung cancer. Silica dust also increases the risk of developing chronic kidney disease, autoimmune disorders, and other adverse health effects, including an increased risk of activating latent tuberculosis, eye irritation and eye damage²³.

Silicosis is a serious, irreversible occupational lung disease that causes permanent disability. There is no effective treatment for it, and it is often fatal.

Silica dust particles when inhaled—respirable crystalline silica (RCS)—can travel deep into the lungs and lead to a range of respiratory diseases, including:

- Silicosis—acute, accelerated, and chronic (progressive massive fibrosis);
- Chronic Obstructive Pulmonary Disease (COPD), including chronic bronchitis; and,
- Lung cancer.

Silicosis and silica-related diseases can have a long latency (the lag between the first exposure to the hazard and when the disease is diagnosed clinically), and damage to the lungs from silica dust may not appear for many years.

Australians living with silicosis and their carers report physically and psychologically debilitating symptoms and significant unmet needs^{24, 25 & 26}.

[At the] "end of every day I am buggered. My chest is sore, it hurts to breathe, my feet and hands hurt...that's my daily life."

Former geologist, 48 years, living with chronic silicosis and sarcoidosis

"It's like a black cloud over your head every day."

Former tiler, 61 years, living with silicosis

It is estimated up to 600,000 Australian workers are potentially being exposed to silica dust each year across a wide range of industries²⁷. Between 83,090 and 103,860 silicosis cases and 10,390 lung cancers are expected to result from current RCS exposure²⁸.

In addition to the physical health impacts, the psychological impacts of silicosis are also significant. From interviews conducted with patients as part of the NSPS and NAP (unpublished), patients report feelings of anxiety and depression, as well as a fear of the future – whether that's 'what's next' in terms of physical symptoms, or how their family will cope when they are gone. Patients also report frustration at not being able to do what they used to—even with relatively simple tasks such as lawn mowing—and having to rely on others for help.

12. Do you have any additional evidence or information on the impacts of silicosis or silica-related diseases?

An early estimate reported by SafeWork Australia estimates that the cost between 2008-09 was estimated to be \$60.6 billion (or 4.8% of Gross Domestic Product)²⁹. Given that it is entirely preventable through a ban of engineered stone (and other occupational industries that can cause occupational lung disease), this represents a largely avoidable cost to the Australian taxpayer and to Australian businesses.

LFA has also provided our previous submission where this information, and more, has been provided (Attachment 1: 220815_LFA SWA CRIS - Managing the risk of respirable crystalline silica).

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- ⁵ SafeWork Australia. 2023. *Crystalline silica and silicosis*. Available from <https://www.safeworkaustralia.gov.au/safety-topic/hazards/crystalline-silica-and-silicosis>
- ⁶ Centre for Disease Control and Prevention. 2020. *Silica – ToxFAQs*. Available from <https://www.atsdr.cdc.gov/toxfaqs/tfacts211.pdf>
- ⁷ Ibid
- ⁸ Merget R, Bauer T, Küpper HU, Philippou S, Bauer HD, Breitstadt R, Bruening T. Health hazards due to the inhalation of amorphous silica. *Arch Toxicol*. 2002 Jan;75(11-12):625-34. doi: 10.1007/s002040100266.
- ⁹ Ibid 6, SafeWork Australia. 2023. *Decision Regulation Impact Statement: Managing the risks of respirable crystalline silica at work*. Available from https://www.safeworkaustralia.gov.au/sites/default/files/2023-02/decision_ris_-_managing_the_risks_of_crystalline_silica_at_work_-_for_publication_pdf
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- ¹¹ Ibid 3
- ¹² Ibid 3
- ¹³ WorkSafe Victoria. 2022. *Engineered stone licence*. Available from <https://www.worksafe.vic.gov.au/engineered-stone-licence>
- ¹⁴ Safe Work Australia. 2022. *Consultation Regulation Impact Statement: Managing the risks of respirable crystalline silica at work*. Canberra, ACT: Safe Work Australia.
- ¹⁵ Ibid 5
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