

State of California  
Department of Industrial Relations  
Occupational Safety and Health Standards Board

**Petition File No. 609**

BOARD STAFF EVALUATION

Submitted by: Marjon Juybari, Senior Safety Engineer

May 13, 2026



State of California  
Gavin Newsom, Governor

## **INTRODUCTION**

Petition File No. 609 (Petition) was received from Western Occupational and Environmental Medical Association (WOEMA) (Petitioner), on December 12, 2025. The Petition requests the Occupational Safety and Health Standards Board (Board) to implement revisions to § 5204 (Occupational Exposures to Respirable Crystalline Silica) in title 8 of the California Code of Regulations that will prohibit all fabrication and installation tasks (cutting, grinding, polishing, etc.) on engineered stone that contains more than 1% crystalline silica.

## **REQUESTED ACTION**

The Petitioner requests the Board to expedite rulemaking to implement revisions to title 8 of the California Code of Regulations 5204 Occupational Exposures to Respirable Crystalline Silica (RCS) to prohibit all fabrication and installation tasks on engineered stone that contains more than 1% crystalline silica.

## **BACKGROUND/HISTORY**

Natural stone, like granite, marble, and quartzite, are 100% real stones that have been quarried from mines and cut into the desired shape. Engineered stone, also called artificial stone, manufactured stone, or quartz, is man-made. It commonly contains 90-95% finely crushed quartz blended with pigment and resins. Utilizing a method known as vacuum vibrocompression,<sup>1</sup> this mixture is compacted under heat and intense pressure to then form a dense, non-porous slab.<sup>2</sup> Natural stone and engineered stone are commonly used for countertop installation, notably in kitchens and bathrooms. However, engineered stone became popular in recent years due to the lower cost and maintenance compared to natural stone. Starting in the 1990s, the commercialization of engineered stone began. Popularity rose globally; the design and attractive colors made its use widespread in some countries as kitchen or bathroom countertops. Starting in 2009, silicosis cases began in workers who fabricate and install engineered stone countertops, with documented cases in Israel, Spain, Italy, Australia, and the United States.<sup>3</sup>

According to the Engineered Stone Market Report, “[t]he global engineered stone market size was valued at USD 26.5 billion in 2025 and is anticipated to reach USD 45.2 billion by 2033, growing at a [Compound Annual Growth Rate] of 7.1% from 2026 to 2033. The growth in construction activities, including residential, commercial, & infrastructure projects, and the growing popularity of quartz-based engineered stone is

<sup>1</sup> “What Is Engineered Stone and How Is It Made?” 2025. Engineer Fix. December 25, 2025. <https://engineerfix.com/what-is-engineered-stone-and-how-is-it-made/>.

<sup>2</sup> “Natural Stone vs. Engineered Stone: A Practical Guide - Carmel Stone Imports.” 2025. Carmel Stone Imports. July 10, 2025. <https://carmelimports.com/blog/natural-stone-vs-engineered-stone/>.

<sup>3</sup> León-Jiménez, A., Mánuel, J.M., García-Rojo, M. et al. Compositional and structural analysis of engineered stones and inorganic particles in silicotic nodules of exposed workers. Part Fibre Toxicol 18, 41 (2021). <https://doi.org/10.1186/s12989-021-00434-x>

projected to drive the market.”<sup>4</sup>

Engineered stone contains high amounts of crystalline silica. When this stone is cut, ground, or polished, it generates dust that contains respirable crystalline silica (RCS). This can get far into the lungs and cause scarring and rapid onset of silicosis.<sup>5</sup> Silicosis is an incurable occupational lung disease caused by inhaling particles of respirable crystalline silica. Inhaling RCS triggers inflammation and fibrosis in the lungs, leading to progressive, irreversible, and potentially disabling disease.<sup>6</sup> Silica exposure is also associated with increased risk for lung cancer, tuberculosis, emphysema, autoimmune diseases, and renal disease.<sup>6</sup>

Countertop fabricators working with engineered stone are at risk of developing silicosis, as these products typically contain over 90% crystalline silica.<sup>7</sup> Silicosis symptoms can include shortness of breath, persistent cough, fatigue, chest pain, and respiratory failure, which may ultimately lead to death.

From a 2026 posting by the National Institute of Occupational Safety and Health (NIOSH), it is estimated that there are currently 1,564 business in California that are believed to be involved with involved in countertop fabrication or installation.<sup>8</sup> The most up to date silicosis and fabrication operations tracker can be found on the CDPH website: [Countertop Fabrication Operations in California](#). The CDPH also has an engineered stone silicosis case dashboard that can be accessed online through their [Engineered Stone Silicosis Surveillance Dashboard](#).

In February 2023, WOEMA submitted a previous petition, [Petition 597](#), that requested the Board adopt an Emergency Temporary Standard (ETS) to control the hazards of airborne silica dust in shops that fabricate engineered stone. The Board adopted [Petition 597](#) for an ETS revision to section 5204 on December 14, 2023. This ETS affects employees working in general industry. It includes revisions to protect workers engaged in high-exposure trigger tasks (cutting, grinding, polishing, clean up, etc.) involving artificial stone and natural stone containing more than 10% crystalline silica. The ETS went into effect on December 29, 2023, and was replaced by permanent updates to section 5204 on December 19, 2024. The permanent standard continued the requirements of the ETS and introduced new protections for workers engaged in high-exposure trigger tasks (cutting, grinding, polishing, clean up, etc.) on engineered stone

<sup>4</sup> “Engineered Stone Market Size Report, 2021-2028.” n.d. Www.grandviewresearch.com. <https://www.grandviewresearch.com/industry-analysis/engineered-stone-market>

<sup>5</sup>Rose C, Heinzerling A, Patel K, et al. Severe Silicosis in Engineered Stone Fabrication Workers — California, Colorado, Texas, and Washington, 2017–2019. MMWR Morb Mortal Wkly Rep 2019;68:813–818. DOI: <http://dx.doi.org/10.15585/mmwr.mm6838a1>

<sup>6</sup> National Institute for Occupational Safety and Health. Health effects of occupational exposure to respirable crystalline silica (publication no. 2002–129). Atlanta, GA: US Department of Health and Human Services, CDC, National Institute for Occupational Safety and Health; 2002. <https://www.cdc.gov/niosh/docs/2002-129/default.html>

<sup>7</sup> CDC. (2026, January 27). Engineered Stone and Silicosis: NIOSH Science Blogs. <https://www.cdc.gov/niosh/bulletin/2026/engineered-stone-cos.html>

<sup>8</sup> CDC. (2026, January 27). Engineered Stone and Silicosis: NIOSH Science Blogs. <https://www.cdc.gov/niosh/blogs/2026/engineered-stone-cos.html>

containing more 0.1% crystalline silica, or other silica containing products, including natural stone containing more than 10% crystalline silica.

Relatedly, Senate Bill (SB) 20 was approved by Governor Newsom on October 13, 2025, for occupational safety high-exposure trigger tasks on artificial stone. SB 20 reinforces the current approach of education and enforcement by requiring attestation of worker training and making serious violations of the silica standard a rebuttable presumption. It also enhances outreach, education, technical assistance, and reporting of silicosis cases.

According to secondhand accounts from the Petitioner and other public health experts, Australia appears to have successfully banned engineered stone as of July 2024 and has provided the market with substitutions available with the same aesthetical look.

## **PETITIONER'S ASSERTIONS**

The Petitioner asserts:

- This expedited change is necessary in light of the continuing epidemic of silicosis, causing disabling disease and death among California fabrication workers as a result of their workplace exposure to silica dust from engineered stone containing crystalline silica.
- Appreciation for the recent passing of ETS, permanent adoptions to 5204, and SB20, but stresses it isn't enough to protect workers against silicosis.
- "The evidence is now clear that engineered stone containing crystalline silica is too toxic to fabricate and install safely, and education and enforcement alone will not be sufficient to curtail the escalating occupational health emergency caused by this product."
- "As physicians who specialize in occupational diseases, we expect the silicosis health epidemic to continue unless there is expedited Cal/OSHA rulemaking that effectively prohibits all fabrication and installation (processing that generates dust) of engineered stone."
- This action is necessary to protect these workers and their families from a deadly disease and to open the market for safer products, which are already commercially available.
- There are many safer substitutes currently available that can be used as alternatives to engineered stone containing crystalline silica.
- Crystalline silica causes silicosis; amorphous silica is a different substance and is much safer.
- "It is highly likely that these safer products will be made immediately available in the California market, without significant economic consequences for fabrication businesses and their workers."
- Summarization of research articles:
  - Rising counts of silicosis caused by engineered stone represent a health emergency.

- Exposure to silica dust from engineered stone causes the rapid onset of silicosis.
- Engineered stone is more toxic than other silica-containing materials such as natural stone.
- As long as exposure to crystalline silica dust from engineered stone continues, the total number of cases and deaths beyond these estimates will continue to grow.
- Airborne concentrations of respirable crystalline silica dust are above the Cal/OSHA limit in many fabrication shops.
- Enforcement of existing regulations to control silica dust exposures is not likely to prevent more cases.
- Australia has successfully prohibited the use, supply and manufacture of all engineered stone containing more than 1% crystalline silica.
- Alternative products are readily available and price competitive in Australia in place of engineered stone.
- Safe work practices must continue while alternative non-crystalline silica products are used in fabrication shops.

## **STAFF EVALUATION**

Board staff discussed Petition 609 with the Petitioner, representatives from Cambria (one of the largest American manufacturers of quartz countertops), California Department of Public Health (CDPH), Brayton Purcell LLP Law firm representing injured workers, and Cal/OSHA. Board staff reviewed relevant international, federal, state and industry consensus standards (identified below) along with research articles about the hazards of RCS of engineered stone.

### **Relevant Standards**

#### ***Federal Standards***

[Title 29 Code of Federal Regulations \(29 CFR\) section 1910.1053 - Respirable crystalline silica. | Occupational Safety and Health Administration](#)

The federal regulation was first introduced in March of 2016 and applies to all RCS exposures with some exceptions. This regulation was last updated on May 14, 2019.

#### ***California Standards***

Section 5204 Occupational Exposures to Respirable Crystalline Silica. This section applies to high-exposure trigger tasks and protections against crystalline silica.

[California Code of Regulations, Title 8, 5204. Occupational Exposures to Respirable Crystalline Silica.](#)

Section 5204 was first adopted by the Board in 2016 to be at least effective as the federal standard. In response to Petition 597, the Board adopted additional protections as an ETS standard in 2023 and on a permanent basis in 2024.

### ***Consensus Standards, Guidelines and Recommended Best Practices***

Cal/OSHA, Centers for Disease Control and Prevention (CDC), California Department of Public Health (CDPH) and various other organizations publish information on working with silica in the stone countertop fabrication industry. The information can be useful for complying with the general industry or construction RCS regulations, informing workers about the hazards of RCS and controlling employee exposures to RCS. Information on silica related illness is also available. <sup>9,10,11,12,13,14,15,16</sup>

The National Institute for Occupational Safety and Health (NIOSH) utilizes services from the CDC to provide NIOSHTIC-2 Publications Search: [NIOSHTIC-2 Publications Basic Search | CDC/NIOSH](#). Another research article database to access information related to silicosis is the National Institutes of Health (NIH) National Library of Medicine: [PubMed](#).

In 2024, the manufacturing, supply, processing and installation of engineered stone benchtops, panels and slabs was banned in Australia. [Silica - Engineered stone ban | Safe Work Australia](#)

In 2025, Senate Bill 20 expanded on the current CDPH standards for classification and reporting of silicosis cases within California and increased the enforcement powers of Cal/OSHA. [Bill Text - SB-20 Occupational safety: high-exposure trigger tasks on artificial stone.](#)

### **Staff Analysis**

Recent research studies have indicated that engineered stone fabrication is causing accelerated silicosis here in California. According to the CDPH, a “global epidemic of silicosis related to engineered stone is underway.”<sup>17</sup> California’s increasing number of silicosis cases appears to be part of this broader epidemic. In addition, these recent

<sup>9</sup> “Engineered Stone Countertop Fabrication What Is ‘Engineered Stone?’” n.d. [https://www.dir.ca.gov/dosh/dosh\\_publications/Engineered-stone-counters.pdf](https://www.dir.ca.gov/dosh/dosh_publications/Engineered-stone-counters.pdf).

<sup>10</sup> “Silicosis.” 2025. Ca.gov. 2025. <https://www.cdph.ca.gov/Programs/CCDC/DEOD/DCDC/Pages/silicosis.aspx>.

<sup>11</sup> “Work Safely with Silica.” 2019. Silica-Safe.org. 2019. <https://www.silica-safe.org/>.

<sup>12</sup> [https://www.dir.ca.gov/dosh/dosh\\_publications/Silica-ETS-What-Employers-Need-To-Know.pdf](https://www.dir.ca.gov/dosh/dosh_publications/Silica-ETS-What-Employers-Need-To-Know.pdf)

<sup>13</sup> [https://www.dir.ca.gov/dosh/dosh\\_publications/Silica-Hazards-GI-Employer-Info.pdf](https://www.dir.ca.gov/dosh/dosh_publications/Silica-Hazards-GI-Employer-Info.pdf)

<sup>14</sup> [https://www.dir.ca.gov/dosh/dosh\\_publications/Silica-Hazards-GI-Worker-Info.pdf](https://www.dir.ca.gov/dosh/dosh_publications/Silica-Hazards-GI-Worker-Info.pdf)

<sup>15</sup> [https://www.dir.ca.gov/dosh/dosh\\_publications/Silica-construction-exposure-control.docx](https://www.dir.ca.gov/dosh/dosh_publications/Silica-construction-exposure-control.docx)

<sup>16</sup> [https://www.dir.ca.gov/dosh/dosh\\_publications/Silica-ETS-Model-Plan.docx](https://www.dir.ca.gov/dosh/dosh_publications/Silica-ETS-Model-Plan.docx)

<sup>17</sup> “Silicosis Becomes a Reportable Disease in California.” 2026. Ca.gov. 2026. <https://www.cdph.ca.gov/Programs/OPA/Pages/CAHAN/Silicosis-Becomes-a-Reportable-Disease-in-California.aspx>

silicosis cases are presenting to be advanced silicosis, a severe disease that can, in some cases, be fatal.<sup>18</sup>

According to the American Journal of Public Health, there were 1817 reports of possible silicosis for 648 individuals from 2019 to 2024 and confirmed 296 (46%) cases, including 243 (82%) associated with engineered stone exposures. Engineered stone cases were more likely to be younger Latino men from Los Angeles County than non-engineered stone cases. Of engineered stone cases, at least 15 (6%) were known to have died, and 60 (25%) were referred for lung transplant, including 30 (12%) who received transplants.<sup>19</sup>

Engineered stone itself contains a high crystalline silica concentration. The fabrication process, like cutting, grinding and polishing, generates RCS, a major hazard. Research articles indicate that engineered stone dust is dangerous due to the high crystalline silica content (becomes RCS), ultrafine particle size, increased surface area/reactivity, and additives/constituents (VOC's and metal) within fabricated quartz contribute to the aggressive, advanced forms of silicosis. The accelerated silicosis in workers exposed to these particles – often young, healthy men – is characterized by a rapidly progressive fibrotic interstitial lung disease with a massive decline in lung function.<sup>20</sup>

There was a study aimed to characterize the elemental composition and physical properties of engineered stone dust and assess occupational exposure to RCS among fabricators in Chicago; The study found that workers were overexposed in their workplaces, with 78% of samples exceeded the federal permissible exposure limit (PEL) of 50 µg/m<sup>3</sup> TWA-8 hour occupational exposure limit for RCS.<sup>21</sup> The study stated that engineered stone dust samples contained much higher silica content (56-95%) compared to natural stone dust (30%), with over 90% of the particles (90.3-98.7%) emitted were of size less than 2.5 µm from activities involving small hand tools.<sup>21</sup> “The findings reveal a combination of risk factors: elevated RCS concentrations, very high silica content in engineered stone, and a high prevalence of fine particles. These factors collectively pose significant health risks to workers that are unequalled in comparison to most other industries.”<sup>21</sup>

<sup>18</sup> Fazio JC, Gandhi SA, Flattery J, Heinzerling A, Kamangar N, Afif N, Cummings KJ, Harrison RJ. Silicosis Among Immigrant Engineered Stone (Quartz) Countertop Fabrication Workers in California. *JAMA Intern Med.* 2023 Sep 1;183(9):991-998. doi: 10.1001/jamainternmed.2023.3295. PMID: 37486642; PMCID: PMC10366949.

<sup>19</sup> Jennifer Flattery et al. “Silicosis Surveillance in California, 2019–2024: Tracking an Epidemic”, *American Journal of Public Health* 115, no. 11 (November 1, 2025): pp. 1913-1921. <https://doi.org/10.2105/AJPH.2025.308225>

<sup>20</sup> León-Jiménez A, Hidalgo-Molina A, Conde-Sánchez MÁ, et al. Artificial stone silicosis: rapid progression following exposure cessation. *Chest* 2020; 158: 1060–1068. doi:10.1016/j.chest.2020.03.026

<sup>21</sup> DeVaughn A, Go LHT, Cohen RA, Shao Y. Investigation of occupational exposure to respirable crystalline silica (RCS) among engineered stone fabricators in Chicago-A pilot study. *J Occup Environ Hyg.* 2025 Feb;22(2):101-109. doi: 10.1080/15459624.2024.2421488. Epub 2024 Nov 25. PMID: 39585784.

Another recent study compared the pulmonary effects following intratracheal instillation of engineered dust of various crystalline silica concentration in rats. Higher toxicity was found to be consistent with higher silica content.<sup>22,23,24</sup>

New research is emerging on the toxicology of nanocrystalline silica (NCS) and ultrafine particles generated during engineered stone fabrication. A significant proportion of the inhaled silica particles produced during engineered stone processing is ultrafine or nanometric and can penetrate deeply into the respiratory tract.<sup>25</sup> One article reported “cutting engineered stones generated high concentrations of very fine particles (<1 µm) with >80% respirable crystalline silica content.”<sup>26</sup> Another article reported “Although particles smaller than 100 nm represented only about 1% of aerosol mass in one study, they accounted for 4–24% of total lung-deposited surface area, suggesting a potentially disproportionate toxicological impact.”<sup>27</sup>

Compared with natural stone dust, engineered stone dust also has a greater surface area and greater surface charge, which may contribute to increased biological reactivity and toxicity.<sup>28</sup> Additional research has shown that exposure to artificial stone dust increases oxidative stress and compromises epithelial barrier in lung (alveolar epithelial) cells.<sup>29</sup>

Engineered stone material itself appears to be more toxic than natural stone.<sup>30</sup> This trend of silicosis has a “high incidence among young workers, with a short latency period and greater aggressiveness than silicosis caused by natural materials. Although the silica content is very high and this is the key factor, it has been postulated that other constituents in engineered stones can influence the aggressiveness of the disease.”<sup>31</sup> “Some of the volatile organic compounds, polycyclic aromatic hydrocarbons and metals detected in the studied countertop samples have been described as causative of lung

<sup>22</sup> Mandler, W. K., Qi, C., Thompson, D., Crabbs, T. A., Hubbs, A. F., Knepp, A. K., ... Qian, Y. (2026). Pulmonary inflammatory and fibrogenic responses in rats following intratracheal instillation of dusts from natural and engineered stones. *Journal of Toxicology and Environmental Health, Part A*, 89(8), 363–382. <https://doi.org/10.1080/15287394.2025.2571405>

<sup>23</sup> Samantha Hall, Peter Stacey, Ian Pengelly, Stephen Stagg, John Saunders, Susan Hambling, Characterizing and Comparing Emissions of Dust, Respirable Crystalline Silica, and Volatile Organic Compounds from Natural and Artificial Stones, *Annals of Work Exposures and Health*, Volume 66, Issue 2, March 2022, Pages 139–149, <https://doi.org/10.1093/annweh/wxab055>

<sup>24</sup> Carrieri M, Guzzardo C, Farcas D, Cena LG. Characterization of Silica Exposure during Manufacturing of Artificial Stone Countertops. *Int J Environ Res Public Health*. 2020 Jun 22;17(12):4489. doi: 10.3390/ijerph17124489. PMID: 32580452; PMCID: PMC7345731

<sup>25</sup> León-Jiménez A, Hidalgo-Molina A, Conde-Sánchez MÁ, et al. Artificial stone silicosis: rapid progression following exposure cessation. *Chest* 2020; 158: 1060–1068. doi:10.1016/j.chest.2020.03.026

<sup>26</sup> Ramkissoon, C., Gaskin, S., Thredgold, L. et al. Characterisation of dust emissions from machined engineered stones to understand the hazard for accelerated silicosis. *Sci Rep* 12, 4351 (2022). <https://doi.org/10.1038/s41598-022-08378-8>

<sup>27</sup> Rishi K, Ku BK, Qi C, Thompson D, Wang C, Dozier A, Vogtzi V, Zervaki O, Kulkarni P. Release of Crystalline Silica Nanoparticles during Engineered Stone Fabrication. *ACS Omega*. 2024 Dec 10;9(51):50308–50317. doi: 10.1021/acsomega.4c06437. PMID: 39741824; PMCID: PMC11683610.

<sup>28</sup> Ramkissoon, C., Gaskin, S., Thredgold, L. et al. Characterisation of dust emissions from machined engineered stones to understand the hazard for accelerated silicosis. *Sci Rep* 12, 4351 (2022). <https://doi.org/10.1038/s41598-022-08378-8>

<sup>29</sup> Ophir, N., Fireman, E., Kramer, M. R., & Korenstein, R. (2025). Artificial stone dust affects oxidative stress and epithelial barrier in CALU 3 cells. *Experimental Lung Research*, 51(1), 81–90. <https://doi.org/10.1080/01902148.2025.2567064>

<sup>30</sup> León-Jiménez A, Hidalgo-Molina A, Conde-Sánchez MÁ, et al. Artificial stone silicosis: rapid progression following exposure cessation. *Chest* 2020; 158: 1060–1068. doi:10.1016/j.chest.2020.03.026

inflammation and respiratory disease.”<sup>31</sup> An article reported that “the predominant volatile organic compound (VOC) emitted was styrene, with phthalic anhydride, benzene, ethylbenzene, and toluene also detected.”<sup>32</sup> Another research paper mentioned “Toxicity appeared to be driven by complex interactions between silica and trace metal content of dust.”<sup>33</sup>

A new study also indicates the age of the RCS may also play a role in the toxicology within the lungs. This study found “freshly generated engineered stone dust displayed greater radical-generating capacity and distinct cytotoxic effects compared to aged engineered stone dust, influenced by factors beyond crystalline silica content.”<sup>34</sup>

According to the Stone Fabrication Silicosis Epidemic Expert Witness Report:<sup>35</sup>

[S]ophisticated shops require high capital expenditures, have substantial fixed operating costs and constant pressure to maintain throughput. Modern fabrication facilities invest heavily in Computer Numerical Control (CNC) routers, bridge saws, waterjet systems, edge polishers, dust-collection and water recycling systems, air systems, forklifts, overhead cranes, digital templating equipment, and specialized software, investments that exceed several million dollars (approximately \$4,555,000). Exceptionally “unsophisticated” shops typically operate on a low-capital, low-cost model that relies heavily on inexpensive manual labor, with fabrication done entirely by hand, often using dry methods or low-budget wet methods with inexpensive tools. Many also do not hold business or contractor licenses or any insurance. These shops often lack the financial resources required to purchase modern CNC equipment, wet-cutting systems, dust-collectors, or proper ventilation. Instead, they depend on handheld grinders, circular saws, and other basic tools that generate significant dust when used on stone or quartz.

<sup>31</sup> León-Jiménez, A., Manuel, J.M., García-Rojo, M. et al. Compositional and structural analysis of engineered stones and inorganic particles in silicotic nodules of exposed workers. Part Fibre Toxicol 18, 41 (2021). <https://doi.org/10.1186/s12989-021-00434-x>

<sup>32</sup> Chandnee Ramkissoon, Sharyn Gaskin, Tony Hall, Dino Pisaniello, Graeme Zosky, Engineered Stone Fabrication Work Releases Volatile Organic Compounds Classified as Lung Irritants, Annals of Work Exposures and Health, Volume 67, Issue 2, March 2023, Pages 288–293, <https://doi.org/10.1093/annweh/wxac068>

<sup>33</sup> Mandler, W. K., Qi, C., Thompson, D., Crabbs, T. A., Hubbs, A. F., Knepp, A. K., ... Qian, Y. (2026). Pulmonary inflammatory and fibrogenic responses in rats following intratracheal instillation of dusts from natural and engineered stones. Journal of Toxicology and Environmental Health, Part A, 89(8), 363–382. <https://doi.org/10.1080/15287394.2025.2571405>

<sup>34</sup> Mandler, W. K., Knepp, A. K., Leonard, S. S., McKinney, W., Keeley, S., & Qian, Y. (2026). Characterization of engineered stone dust-induced reactive oxygen species generation and cytotoxicity in vitro. Journal of Toxicology and Environmental Health, Part A, 89(7), 304–314. <https://doi.org/10.1080/15287394.2025.2562482>

<sup>35</sup> Vourakis, Aki. *Stone Fabrication Silicosis Epidemic Expert Witness Report*. The Case of Wilmer Ruben Martinez Paredes: The Alpha Consulting Group, 2026

Facility sizes can range from as small as 1,000 square feet to over 100,000 square feet, with larger facilities often featuring additional yard space. The most common type of fabrication facility is small to mid-sized, typically ranging between 2,500 and 7,500 square feet. Smaller facilities typically cut slabs by hand, either (more rarely) using a handheld power saw or (more commonly) an older, pre-owned wet manual bridge saw. Edge profiling is usually done by hand with dry tools or more rudimentary wet tools.

Additionally, this report estimates roughly over half of shops are operating under “unsophisticated” criteria.<sup>36</sup>

To meet consumer expectations for edge thickness and appearance, fabrication shops must laminate thinner slabs, a process that requires extensive edge grinding. Lamination is a process used to bond two thinner, less expensive slabs together to create a thicker countertop edge. Regardless of whether the fabrication shop is small, mid-sized, or large, lamination of slabs is always performed by hand. Currently, there is no automated machine on the market capable of performing lamination and eliminating the handwork that generates significant amounts of visible dust, thereby exposing fabricators to RCS and other toxins. Most shops have always completed this step dry, as it speeds up the process and improves adhesion by eliminating the wait time for wet parts to dry before gluing.

This witness report also mentions the recent diagnoses of employees in more sophisticated shops with silicosis, concluding:<sup>36</sup>

[T]he controls in place did not reliably prevent respirable crystalline silica from becoming airborne under routine production conditions and that it is not feasible to consistently achieve compliance with the Federal OSHA PEL of 50 µg/m<sup>3</sup> for respirable crystalline silica over an 8-hour TWA during either the fabrication or installation of stone or quartz. This is due to: the extremely high silica content of artificial stone, the limitations and variability of controls, controls reduce but do not eliminate RCS, “real-world” production conditions exist, the realities of field installation, continuous production volume and overload, market demand, and human factors. According to this report, controls cannot be relied upon to consistently prevent hazardous exposure under real-world production conditions.

<sup>36</sup> Vourakis, Aki. *Stone Fabrication Silicosis Epidemic Expert Witness Report*. The Case of Wilmer Ruben Martinez Paredes: The Alpha Consulting Group, 2026

## Board Staff's Response to Petitioner's Requests:

- This expedited change is necessary in light of the continuing epidemic of silicosis that is causing disabling disease and death among California fabrication workers as a result of their workplace exposure to silica dust from engineered stone containing crystalline silica.
  - This statement is consistent with the data that shows an increase in the amount of silicosis cases in California.
- Appreciation for the recent passing of ETS, permanent adoptions to 5204, and SB20, but stresses it isn't enough to protect workers against silicosis.
  - Data from the CDPH is showing silicosis cases have been on the rise.
- “[T]he evidence is now clear that engineered stone containing crystalline silica is too toxic to fabricate and install safely, and education and enforcement alone will not be sufficient to curtail the escalating occupational health emergency caused by this product.”
  - Data shows engineered stone is more toxic than natural stone, due to the high crystalline silica content, particle size, and additives that seem to compound increased toxicity.
- “As physicians who specialize in occupational diseases, we expect the silicosis health epidemic to continue unless there is expedited Cal/OSHA rulemaking that effectively prohibits all fabrication and installation (processing that generates dust) of engineered stone.”
  - If workers continue to breathe in RCS and if shops continue to be non-compliant with safe guidelines for RCS handling, silicosis cases will continue rising.
- This action is necessary to protect these workers and their families from a deadly disease and to open the market for safer products, which are already commercially available.
  - There are alternatives available, and Australia is exclusively using said alternatives due to the ban now in place.
- There are many safer substitutes currently available that can be used as alternatives to engineered stone containing crystalline silica. Crystalline silica causes silicosis; amorphous silica is a different substance and is much safer.
  - The data is more limited on the toxicity for “alternative” stone, but the current data shows that engineered stone is more toxic than natural stone.
- “It is highly likely that these safer products will be made immediately available in the California market, without significant economic consequences for fabrication businesses and their workers.”
  - Economic analysis is needed for this statement.

## **Recent Presentations to the Board**

Laurie Weber from International Surface Fabricators Association (ISFA) provided a presentation to the Board on January 15, 2026. This presentation detailed out a plan to protect workers without a ban by setting up a structure of licensing and internal enforcement.

Rebecca Shult and Marshall Engstrom from Cambria gave a presentation to the Board on February 19, 2026. They presented the details of how the Cambria facility in Minnesota safely manufactures engineered stone. This facility is modern with sophisticated equipment. All work with stone slabs are handled under wet methods, good housekeeping with extensive drainage throughout the facility, and claim they perform regular IH testing that show results under the permissible exposure limit (PEL). The Cambria presentation also stated that this does not appear to be the case here for manufacturers/fabricators here in California, as described above.

Eric Berg, Deputy Chief of Health at Cal/OSHA, gave a silicosis case update to the Board on February 19, 2026. He stated that since the ETS took effect on December 29, 2023, Cal/OSHA opened 138 inspections in countertop fabrication facilities. Out of the 138 shops, 125 were in violation of section 5204 and related title 8 sections; in other words, about 94% of businesses in California were out of compliance. 25 of these shops were issued an "Order Prohibiting Use", which means the facility was shut down until hazard was fixed. To date, 133 of the 138 inspections have been closed. The total number of alleged violations of all 138 inspections was 907 violations, with total initial penalties of \$1.08 million dollars.

According to the CDPH, there are 1342 fabricators in California with median size of 5 employees per shop. Out of the 1342 fabricators, 715 have had a confirmed silicosis case in their shop (nearly half). In 2026, there have been 41 silicosis confirmed cases reported by CDPH (January 1-February 12<sup>th</sup>); nearly 1 case of silicosis per day. There was a total of 214 confirmed cases in 2025. In total, there were 511 confirmed cases and 29 deaths (as of February 12, 2026).

## **Summary of Analysis**

There is currently no cure for silicosis. Silicosis cases continue to rise, even with the stricter regulations and enforcement tools from the passage of the ETS in 2023 and SB-20 in 2025. The current regulation and enforcement of section 5204 do not appear to be effectively reducing the number of silicosis cases in the countertop fabrication industry. Current and proposed requirements of using wet only processes, HEPA cleanups, exposure monitoring, IH audits, stricter penalties, increased medical surveillance, PAPRs, licensing/certification of shops are expensive and resource consuming. It will likely take more time to effectively implement a robust licensing and certification process, should regulators or the legislature decide to implement such a process. The recent data shows that shops are not even compliant with the basic current regulation. Therefore, in evaluating the petitioner's request, Board staff found that a prohibition on

all fabrication and installation tasks on engineered stone that contains more than 1% silica may be the quickest and most cost-effective way to achieve a reduction in silicosis cases here in California.

### **STAFF RECOMMENDATION**

For reasons stated in the preceding discussion, Board staff recommends that Petition 609 be **GRANTED** to the extent that Cal/OSHA is requested to convene an advisory committee to consider amendments to section 5204, addressing the prohibition on fabrication and installation tasks on engineered stone products containing more than 1% crystalline silica