

Division of Occupational, Environmental
and Climate Medicine

UCSF and UCSF Health
San Francisco VA Health Care System
Zuckerberg San Francisco General Hospital
and Trauma Center

<http://oecm.ucsf.edu/>

Gina M. Solomon, MD, MPH,
Division Chief
Paul D. Blanc MD, MSPH
John Balmes, MD
Rahmat Balogun, DO, MS, MPH
Max Blumberg, MD, MPH
Timur Durrani, MD, MPH, MBA
Sheiphal Gandhi, MD MPH
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Sandeep Guntur, MD, MPH
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Carisa Harris-Adamson, PhD, CPE
Robert Harrison, MD, MPH
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Amy Heinzerling, MD, MPH
Robert Kosnik, MD, DIH
Mark Miller, MD, MPH
Patricia Quinlan, MPH, CIH
Anu Ramachandran, MD, MPH
Suzaynn Schick, PhD
James Seward, MD, MPP, MMM

University of California San Francisco
(UCSF) Health
Occupational and Environmental
Medicine Clinic
2330 Post St. Suite 460
UCSF Box 1661
San Francisco, CA 94143

San Francisco VA Health Care
System (SFVAHCS)
4150 Clement Street
Mail Code: 111
San Francisco, CA 94121-1545

ZSFG Occupational
Environmental and Climate
Medicine Division Office
Box 0843
2540 23rd St., Floor 2
San Francisco, CA 94143

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California Division of Occupational Safety and Health
Research and Standards Health Unit
Department of Industrial Relations
Submitted electronically to: RS@dir.ca.gov

Re: Proposed Emergency Rulemaking — Prohibition of Fabrication and
Manufacture of Artificial Stone Containing More Than 1% Crystalline Silica;
Proposed Section 5204.1 and Amendments to Sections 5204 and 1532.3

Dear Cal/OSHA Research and Standards Health Unit:

On behalf of the University of California, San Francisco Division of
Occupational, Environmental, and Climate Medicine (UCSF OECM), we write in
strong support of Cal/OSHA's proposed prohibition on the fabrication and
manufacture of artificial stone containing more than 1% crystalline silica.

As occupational medicine physicians and researchers, we see firsthand the
devastating consequences of occupational exposure to respirable crystalline silica
among workers in the artificial-stone countertop industry. Our physicians care for
workers who are seriously ill with silicosis as a result of their work fabricating
these products. These are not theoretical or remote risks. We see workers with
severe, progressive lung disease, including young workers facing respiratory
failure, evaluation for lung transplantation, and premature death. Silicosis is
irreversible and potentially fatal, and there is no medical treatment that can
reverse the underlying pulmonary fibrosis.

The rapidly expanding epidemic of artificial-stone-associated silicosis in
California is now well documented. In 2023, Fazio, Gandhi, Heinzerling,
Harrison and colleagues reported 52 California workers with silicosis associated
with engineered-stone countertop fabrication. The median age at diagnosis was
only 45 years. Thirty-eight percent already had progressive massive fibrosis at
diagnosis, and 19% had died. The authors noted that many of these workers were
relatively young immigrant workers and that disease was often advanced by the
time it was recognized. [1]

More recent data demonstrate that the problem has grown dramatically.
Heinzerling, Flattery, Cummings, Harrison, Fazio, Gandhi and colleagues
reported in NEJM Evidence in August 2026 that the California Department of
Public Health had identified 592 cases of silicosis among engineered-stone
fabrication workers from January 2019 through June 2026. Sixty-five affected
workers had undergone lung transplantation and 31 had died. [2] These figures
make clear that California is confronting an occupational disease epidemic of
extraordinary severity.

Our clinical experience is consistent with these published findings. Physicians within UCSF OECM have evaluated and treated workers with serious and advanced silicosis arising from employment in the stone fabrication industry. We have witnessed the profound consequences of this disease for workers and their families. Workers who entered this industry healthy can develop disabling respiratory disease during what should be the most productive years of their lives. Some become oxygen-dependent; some require lung transplantation; and some die.

The persistence of these cases also demonstrates why relying principally on conventional engineering controls and personal protective equipment is inadequate for this particular hazard.

Wet methods, including wet cutting, grinding, and polishing, are important exposure controls and should continue to be required wherever silica-containing materials are processed. But the evidence demonstrates that they do not reliably reduce exposures from high-silica artificial stone to safe levels. The 2023 California case series noted that water suppression can reduce crystalline silica exposure substantially but may nevertheless be insufficient to reduce exposure below the permissible exposure limit without local exhaust ventilation and appropriate respiratory protection. [1] Cal/OSHA's own rulemaking record describes NIOSH investigations in which workers using water-suppressed grinders remained overexposed and in which wet grinding and wet polishing of engineered quartz generated high task-based respirable crystalline silica exposures.

This distinction is fundamental. A control can reduce exposure substantially and still leave workers exposed to an unacceptable hazard. Artificial stone may contain extraordinarily high concentrations of crystalline silica, and cutting, grinding, and polishing it can generate intense concentrations of respirable dust. In real workplaces, moreover, the effectiveness of engineering controls depends upon equipment selection and maintenance, adequate water flow and local exhaust ventilation, worker training, housekeeping, respiratory protection programs, fit testing, and consistent implementation during every relevant task. The continuing occurrence of severe disease despite years of silica standards and control requirements demonstrates the limitations of relying on this multilayered system to manage an intrinsically hazardous product.

The hierarchy of controls provides the appropriate framework. When a serious occupational hazard can feasibly be eliminated or substituted, elimination and substitution are preferable to attempting indefinitely to control workers' exposure to the hazard downstream. In this setting, eliminating fabrication of artificial stone containing more than 1% crystalline silica addresses the hazard at its source.

Australia's experience provides compelling evidence that such a transition is feasible. Australia prohibited the manufacture, supply, processing, and installation of engineered-stone benchtops, panels, and slabs beginning July 1, 2024, followed by an import prohibition beginning January 1, 2025. [3] Importantly, the Australian market has not been left without viable countertop materials. A range of alternatives is available, including products containing less than 1% crystalline silica, crystalline-silica-free acrylic products, recycled-glass products, porcelain, sintered stone, timber, and stainless steel. [3,4]

Safe Work Australia's subsequent review found that the prohibition was operating as intended, while recognizing that implementation remains relatively recent. [4] The Australian experience therefore demonstrates that eliminating high-silica artificial stone need not eliminate the countertop fabrication industry. Rather, regulation can drive substitution toward alternative materials and manufacturing processes.

We recognize that alternative materials must themselves be evaluated and controlled appropriately. No stone or dust-generating fabrication process should automatically be assumed harmless, and appropriate engineering controls remain necessary when processing materials capable of generating hazardous dust. This does not diminish the case for eliminating artificial stone containing substantial crystalline silica. Instead, it underscores the proper application of the hierarchy of controls: eliminate an exceptionally hazardous material where feasible, substitute less hazardous products, and then apply engineering controls, work practices, and respiratory protection to the residual hazards associated with those substitutes.

The scientific and clinical evidence also argues strongly against delaying action while attempting further incremental improvements in exposure controls. In 2025, Heinzerling, et al. characterized artificial-stone-associated silicosis as an urgent occupational health problem requiring prevention at its source. [5] The subsequent increase in California's recognized disease burden reinforces that urgency.

Every new case of silicosis caused by fabrication of high-silica artificial stone represents a preventable occupational disease. Once pulmonary fibrosis has developed, regulation comes too late for that worker. Medical surveillance can identify disease but cannot undo it. Respirators can reduce inhaled exposure but do not eliminate the underlying hazard. Wet methods can suppress dust but do not reliably eliminate hazardous exposure. Enforcement can improve compliance but cannot transform a fundamentally hazardous material into a harmless one.

For these reasons, UCSF OECM strongly supports Cal/OSHA's proposed prohibition on fabrication and manufacture of artificial stone containing more than 1% crystalline silica. We urge the Division to move expeditiously to adopt and implement the prohibition and to avoid exemptions or loopholes that would undermine its effectiveness.

California has an opportunity to prevent severe disability, lung transplantation, and premature deaths among stone fabrication workers. The evidence from our clinics, California's public health surveillance, occupational exposure investigations, the peer-reviewed literature, and Australia's experience all point in the same direction: eliminating high-silica artificial stone from fabrication is a necessary and appropriate occupational disease prevention measure.

Thank you for the opportunity to comment and for Cal/OSHA's work to protect California workers. Sincerely,

A handwritten signature in black ink, appearing to read "Gina Solomon". The signature is fluid and cursive, with the first name "Gina" and last name "Solomon" clearly distinguishable.

Gina M. Solomon, M.D., M.P.H.
Chief, Division of Occupational, Environmental, and Climate Medicine
Department of Medicine
University of California, San Francisco

References

1. Fazio JC, Gandhi SA, Flattery J, Heinzerling A, Kamangar N, Afif N, Cummings KJ, Harrison RJ, et al. Silicosis Among Immigrant Engineered Stone (Quartz) Countertop Fabrication Workers in California. *JAMA Internal Medicine*. 2023;183(9):991–998. doi:10.1001/jamainternmed.2023.3295.
2. Heinzerling A, Flattery J, Cummings KJ, Harrison RJ, Fazio JC, Gandhi SA, Khan A, Michaels D. Silicosis among Workers Fabricating Engineered Stone ("Quartz") Countertops in California, 2019–2026. *NEJM Evidence*. 2026;5(9). doi:10.1056/EVIDpha2600187.
3. Safe Work Australia. Engineered Stone Ban. Australian Government. Ban effective July 1, 2024; import prohibition effective January 1, 2025.
4. Safe Work Australia. Review of the Engineered Stone Prohibition. December 4, 2025.
5. Heinzerling A, Harrison R, Flattery J, Fazio JC, Gandhi S, Cummings KJ. Deadly Countertops: An Urgent Need to Eliminate Silicosis among Engineered Stone Workers. *American Journal of Respiratory and Critical Care Medicine*. 2025;211(4):557–559. doi:10.1164/rccm.202410-2008VP.