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Occupational Safety and Health Standards Board
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**PROPOSED PETITION DECISION OF THE
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD
(PETITION FILE NO. 597)**

INTRODUCTION

The Occupational Safety and Health Standards Board (Board) received a petition on March 13, 2023 from R. Terrazas, MD MPH, President, Western Occupational and Environmental Medical Association (WOEMA, Petitioner). Petitioner requests the Board amend title 8¹, General Industry Safety Orders (GISO), section 5204, Occupational Exposures to Respirable Crystalline Silica via an Emergency Temporary Standard (ETS) to address the growing number of reported cases of advanced silicosis among workers exposed to respirable crystalline silica (RCS) in engineered stone fabrication shops.

Labor Code section 142.2 permits interested persons to propose new or revised regulations concerning occupational safety and health and requires the Board to consider such proposals and render a decision no later than six months following receipt. Further, as required by Labor Code section 147, any proposed occupational safety or health standard received by the Board from a source other than the Division of Occupational Safety and Health (Cal/OSHA) must be referred to Cal/OSHA for evaluation, and Cal/OSHA has 60 days after receipt to submit an evaluation regarding the proposal.

SUMMARY

Petitioner urges the Board to consider adopting an ETS to control the hazards of airborne silica dust in shops that fabricate engineered stone due to concern that the current standard for the control of silica hazards (section 5204) is insufficiently protective in such workplaces.

The Petitioner asks that the ETS address the use of engineered stone with a high silica content, the lack of regulated areas, dry fabrication work practices, inadequate respiratory protection and lack of reporting the use of silica to the Cal/OSHA Occupational Carcinogen Control Unit (pursuant to section 5203).

Petitioner believes the magnitude and severity of silicosis, an irreversible progressive lung disease appearing in young and foreign-born workers exposed to RCS with only a few years of

¹ Unless otherwise stated, all references are to title 8, California Code of Regulations.

occupational exposure, amounts to a public health problem of great urgency necessitating emergency rulemaking.

REQUESTED ACTION

Petitioner requests an ETS with the following elements:

- 1) Applies to workplaces using engineered stone with a high silica content (greater than 50%).
- 2) Regulated areas to limit employee access to areas where artificial stone is fabricated.
- 3) Prohibition on fabrication without the use of water to suppress dust.
- 4) Requirement for airline respirators or power air-purifying respirators (PAPRs) for all work involving fabrication of artificial stone.
- 5) Annual documentation indicating that the employer has sent a letter to the Cal/OSHA Occupational Carcinogen Control Unit reporting the use of RCS, as required by section 5203 "Carcinogen Report of Use Requirements."
- 6) Strengthened penalty structure so that violations of the ETS result in citations classified as serious.
- 7) Updated guidance prepared by Cal/OSHA with information on computerized tomography (CT) exams and other diagnostic studies.
- 8) Reporting requirement for physicians or other licensed health care professionals (PLHCP) to inform Cal/OSHA of any silicosis diagnoses of moderate severity or worse.

EXISTING REGULATIONS

Current section 5204 "Occupational Exposures to Respirable Crystalline Silica" contains the same requirements as the corresponding federal regulation, including an action level of 25 micrograms per cubic meter of air ($\mu\text{g}/\text{m}^3$) as an 8-hour time-weighted average (TWA) and a permissible exposure limit (PEL) of $50 \mu\text{g}/\text{m}^3$ as an 8-hour TWA. The standard also contains provisions for regulated areas, engineering and work practice controls and respiratory protection where feasible engineering and work practice controls do not control exposures to below the PEL. Non-mandatory medical surveillance guidelines are provided in Appendix B to section 5204.

Additionally, section 334 "Classification of Violations and Definitions" provides that any violation of a standard respecting the use of a carcinogen is classified as a serious violation with some exceptions.

Lastly, section 5208 “Asbestos” in relevant part prohibits employers from providing filtering facepiece respirators to employees for protection against asbestos fibers. The section explicitly requires an employer to provide a PAPR upon request to an employee who chooses the respirator as long as the respirator provides adequate protection. The requirement for “airline respirators or PAPRs” in section 5208 is dependent upon airborne asbestos concentrations, which is typical for airborne contaminants regulated by Cal/OSHA.

CAL/OSHA’S EVALUATION

Cal/OSHA’s evaluation report dated May 17, 2023 states that as an alternative to section 5204, an ETS would be more effective at protecting workers and be easier for employers to implement than the current regulation as written. It is reasoned that as a performance-based standard, current section 5204 is not effective because it requires the employer to conduct sophisticated exposure assessments as the basis for implementing silica exposure controls. Since performance standards are well suited to larger employers with more resources, smaller stone fabrication shops (which make up a large part of the industry), cannot meet this standard. Thus, a prescriptive approach should be taken instead. Cal/OSHA recommends that the Petitioner’s request be granted because this approach makes it clear that implementing effective exposure controls is integral to the business of operating an engineered stone fabrication shop.

Cal/OSHA believes an ETS is necessary to protect employee health due to workers developing silicosis in the engineered stone fabrication industry, compared to traditional industries. Cal/OSHA also cites the inability or unwillingness of employers, particularly small businesses, to install well-recognized engineering and work practice controls. This recommendation is based on widespread non-compliance with section 5204 during the 2019-2020 special emphasis program (SEP). Due to the unique hazards associated with engineered stone, Cal/OSHA proposes that the ETS cover all workplaces where engineered stone is used that consists of more than 1% silica.

Cal/OSHA concurs with Petitioner’s proposal and recommends additional provisions to section 5204 to ensure effectiveness. Notably, Cal/OSHA proposes that exposure assessments be given up entirely. Cal/OSHA suggests that for all businesses, the use of engineered stone material itself should trigger specific engineering, work practice and respiratory protection requirements. Additionally, Cal/OSHA suggests the current regulations be amended to add more stringent standards to include all workplaces where engineered stone is used that consists of more than 1% silica².

While acknowledging that the current standard is already complicated and costly for small business owners, Cal/OSHA reasons that this approach integrates the cost of exposure controls into the baseline costs of opening and operating an engineered stone fabrication shop.

² Cal/OSHA’s evaluation contains a typo on page 32, which mistakenly indicates this amount to be 5% instead of 1%.

Cal/OSHA further recommends that the SEP reevaluate worker exposures in the industry as early as January 2024. If inspections show that: (1) employers have moved quickly to implement the ETS; (2) exposures are below the action level across the industry; and (3) silicosis cases have dropped to zero; Cal/OSHA recommends that the ETS and associated enforcement activities be continued.

Lastly, Cal/OSHA submits that if inspections continue to show widespread non-compliance, it recommends that an advisory committee be immediately convened to develop plans for prohibiting the use of engineered stone products in California, effective July 1, 2024, following the lead of the Australian Government Department of Health.

STAFF'S EVALUATION

Board staff prepared an evaluation dated June 27, 2023, which finds that an ETS may not be necessary to protect workers in this industry. Board staff states that Petitioner requests an ETS with many provisions that are duplicative of the existing section 5204. Board staff emphasizes that the existing requirements apply to all silica exposures in excess of 25 $\mu\text{g}/\text{m}^3$ as an 8-hour TWA, not just those resulting from materials beyond a specific silica content.

Board staff found that the reasoning behind an ETS is not the occurrence of occupational illness from exposure. Instead, evidence provided by the Petitioner and confirmed by Cal/OSHA in its May 17, 2023 report appears to show that non-compliance with the current regulation is widespread. While all regulations can be improved, because of widespread non-compliance in the industry, it is difficult to conclude that the current requirements are insufficiently protective of worker health.

As highlighted by the Petitioner, cases of silicosis in the industry are a serious cause for concern, but Board staff points out that creating new requirements when the existing requirements are not being followed is unlikely to achieve the desired results. Positive outcomes in the industry are more likely to result from a multi-faceted effort which includes the existing regulation, public and private resource material and Cal/OSHA's education, enforcement and outreach tools.

Board staff suggests that the standard rulemaking process, unlike the creation of an ETS, will allow stakeholders the opportunity to fully participate in the rulemaking process by attending advisory committee meetings to discuss possible amendments to the current regulation. Stakeholder input from employees, their representatives and their employers provides the opportunity to identify effective solutions to address their workplace hazards and is vital to the success of a regulation because it aids in the understanding of the requirements and results in greater compliance and employee/employer buy-in.

Board staff, therefore, recommends that Petition File No. 597 be denied. Instead, the Board should request that Cal/OSHA consider reviewing the need to update section 5145 to more

closely match Construction Safety Orders section 1530.1, as well as Appendix B to section 5204, to ensure that it contains the most up-to-date information for PLHCPs to use in diagnosing silica related illness. According to Board staff, Cal/OSHA should be encouraged to increase its efforts in implementing its outreach and SEP to improve compliance in the industry and ensure that employers, employees and their representatives are aware of the many educational resources available to help them. Cal/OSHA can also review the reporting requirements for physicians under Chapter 7 “Division of Labor Statistics and Research” and make necessary adjustments without the Board’s oversight.

Board staff reiterates that changes, if any, to current regulations should be implemented using standard rulemaking procedures to maximize the best outcome for compliance.

DISCUSSION

There is uncontroverted evidence that silica exposure in the workplace causes irreversible silicosis and lung cancer. Cal/OSHA has provided an extremely thorough evaluation citing many credible sources and persuasively describing the harmful effects of RCS. Board staff is similarly in agreement about the dangerous and increasing health impacts of RCS exposure in the workplace.

1. Scope of Silica Content on ETS

Petitioner requests that the ETS apply to workplaces using engineered stone with a high silica content, stated as greater than 50%. Instead of applying to workplaces with greater than 50% silica content in engineered stone, Cal/OSHA proposes the ETS apply to workplaces with a silica content above 1%. Cal/OSHA did not present any evidence as to why it decided on 1% as the threshold silica content amount for the ETS. The greater than 1% standard goes well above Petitioner’s concerns of greater than 50% silica content for an ETS³.

By implementing a greater than 1% content standard instead of the current exposure assessment standard, this would include nearly all of the 808 fabrication shops operating in the state today, which is made up almost entirely of small shops with a median of five employees.

If engineered stone is a factor for silicosis, silica is the main culprit. However, the ETS does not equally apply to the stone industry. Cal/OSHA’s table, Figure 2 on page 7 of the evaluation shows the average percentage of silica in engineered stone compared to natural stone. Quartzite, a naturally occurring stone, on average has 95% silica compared to engineered stone’s greater than or equal to 93% silica content. However, only fabricated stone will be

³ Cal/OSHA acknowledges a typo on page 38 where Petitioner’s request was stated as greater than 5% rather than greater than 50% silica content.

regulated under the ETS. If the intent is to decrease RCE exposure and the development of silicosis, the silica content contained in natural stone cannot be ignored.

The effect of this could potentially cast a wider net to include slate or soapstone-only shops where silica content varies and could potentially fall into the greater than 1% depending on the source. This could result in an unintended overhaul of how Cal/OSHA tracks fabrication shops for enforcement purposes. Tracking shops based solely on silica content may be difficult given changes in suppliers and availability of particular stones, which may vary widely and often based on market prices, supply/demand and other factors. For example, one shop may be regulated based on the percentage of silica content one month and not another month, because the silica content of even the same type of stones can vary. This would make this standard nearly impossible to enforce.

An ETS of this magnitude would require immediate large scale dedicated resources far greater than the SEP, which already found widespread non-compliance with the current exposure assessment standard. It seems highly unlikely that Cal/OSHA would be able to timely engage with over 800 mom and pop shops to sufficiently pivot into compliance of a new standard on a tight timeline.

Pursuant to Government Code subsection 11340.1(a), agencies are instructed to favor performance standards over prescriptive standards when they are “reasonably expected to be as effective and less burdensome.” In so stating, it was the intent of the Legislature that agencies “actively seek to reduce the unnecessary regulatory burden on private individuals and entities.” Additionally, this subsection should also be taken into consideration as part of the rulemaking process.

Petitioner’s request that a proposed ETS apply only to workplaces using engineered stone with a silica content greater than 50% would affect a small subset of the workplaces covered by section 5204. In sharp contrast, an ETS using a greater than 1% silica content criteria would cover nearly the entire fabricated stone industry. This is an ambitious proposal that would be more persuasive if data was submitted specifically tying the greater than 1% silica prescriptive standard to how it would be reasonably expected to be as effective and less burdensome as the current regulation.

a. Exposure Assessment

Cal/OSHA seeks to abandon the exposure assessment in section 5204 by proposing that the use of engineered stone itself must trigger the implementation of specific engineering work practice and respiratory protection requirements. It states that most industry employers (68%), do not conduct exposure assessments and that this is only required when workers are exposed over the PEL. Cal/OSHA indicated small businesses in particular find the requirements too complex and costly. However, by requiring 100% of stone fabrication shops to comply with a

new regulated standard, this will burden the entire industry, not just the shops out of compliance.

2. Regulated areas to limit employee access to areas where artificial stone is fabricated.

The existing regulation and the requested ETS both have provisions for a regulated area, but the ETS would require a more stringent demarcation of areas of possible silica exposure and use of respirators in those areas. Section 5204 requires a regulated area everywhere an employee's exposure to RCS exceeds or is reasonably expected to exceed the PEL.

In effect, both regulations would likely protect workers equally, depending on how the requirement for the regulated area is interpreted by employers and enforced by Cal/OSHA. The potential increase in regulated areas would not necessarily better protect employees who are already protected by effective engineering and administrative controls. Requiring all employees to participate in a respiratory protection program (RPP) could provide additional protection to some employees if executed properly, but an overly broad expansion of respiratory protection does not come without potential consequences such as additional stress on the heart and lungs, and feelings of anxiety and claustrophobia⁴. Further, employee compliance with an RPP can be significantly impacted by perception (whether or not PPE is needed), use training and comfort⁵.

For the employers in the industry complying with the existing regulation, the requested ETS will impose additional burdens (e.g., unnecessarily increasing regulated area space, the number of employees included in a RPP, etc.) without necessarily producing better safety and health outcomes. For the majority of employers who are not currently following the existing regulation, according to the May 15, 2023 Cal/OSHA report, the requested ETS will remove the need to evaluate the workplace to determine which controls and protective equipment are necessary. However, without understanding why some employers are complying with the existing regulation and some are not, Board staff cautions that additional regulation may not result in increased compliance.

3. Prohibition on fabrication without the use of water to suppress dust.

Although section 5204 prohibits dry sweeping, brushing and the use of compressed air where such activities can contribute to employee exposure to RCS, the ETS would prohibit all

⁴ <https://www.ehs.washington.edu/workplace/respiratory-protection>. Respiratory Protection. "Medical clearance is required before you can wear a respirator. Wearing respirators can put additional stress on the heart and lungs, and may cause some to feel anxiety or claustrophobia." (Accessed 6/26/2023)
https://www.osha.gov/publications/respiratory_protection_bulletin_2011#:~:text=Breathing%20through%20a%20respirator%20is,full%20facepiece%20or%20hooded%20respirator. OSHA Bulletin: General Respiratory Protection Guidance for Employers and Workers. (Accessed 6/26/2023)

⁵ <https://www.infectioncontroltoday.com/view/addressing-challenges-ppe-non-compliance>. Infection Control Today. (Accessed 6/25/2023)

fabrication activities that do not use water to suppress dust. Instead of prohibiting specific activities, section 5204 requires that employee exposures be controlled to the extent feasible, potentially allowing dry fabrication for those processes which cannot feasibly be done using wet methods or local exhaust ventilation (LEV). Regardless of the feasibility of the control method, however, section 5204 still requires employers to protect employees from exposures above the PEL.

Instead of relying upon employers to determine which controls are needed and for which processes, the requested ETS would require wet methods for all fabrication processes regardless of level of RCS produced by the process. Dust control would also be limited only to wet methods and not LEV. When properly implemented, section 5204 can provide the same protections as the requested ETS, but with less burden on the employer by leaving the decision-making regarding dust control methods in the employer's hands.

4. Requirement for airline respirators or power air-purifying respirators for all work involving fabrication of artificial stone.

The Petition requests stronger respiratory protection than is currently required in section 5204, referring to section 5208(g), which provides requirements for respiratory protection when working with asbestos in general industry. The asbestos standard prohibits the provision of filtering facepiece respirators for employee protection and more explicitly allows an employee to choose a powered air-purifying respirator, but otherwise has the same requirements as the existing Occupational Exposures to Respirable Crystalline Silica standard, section 5204, and other regulations requiring respiratory protection.

Promulgating the requested ETS would require employers to provide employees fabricating engineered stone with respiratory protection in some situations where the existing regulation requires none, or more protective respiratory protection than workplace conditions require in others. For example, in a workplace with sufficient engineering controls in place to reduce employee exposure to RCS to below the PEL, the requested ETS would still require employees to use respiratory protection. Or, in a workplace where after all feasible engineering and administrative controls have been implemented, employees are still exposed at twice the PEL, the existing regulation would require a respirator with an assigned protection factor (APF) of 10 or more to be used. The requested ETS would require the employer to place the employee in a PAPR, which has an APF ranging from 25 to 1,000 or a supplied air respirator, which has an APF ranging from 10 to 1,000. Engineering and administrative controls should be implemented fully before relying upon respirators and other personal protective equipment, as is required in the existing regulation.

5. Annual documentation indicating that the employer has sent a letter to Cal/OSHA reporting the use of a respirable crystalline silica (RCS), as required by section 5203 “Carcinogen Report of Use Requirements.”

Petitioner’s request to require annual documentation of compliance with section 5203 already exists for RCS. Subsection 5203(a) requires “All employers who use a regulated carcinogen shall report that use in writing to the Chief [of Cal/OSHA] as required by this section.” Because exposure assessments and medical exams are not required by the regulations, few employers are impacted by this record-keeping requirement. Cal/OSHA suggests creation of a new requirement to report silicosis cases to local health departments and the California Department of Public Health (CDPH).

6. Strengthened penalty structure so that violations of the ETS result in citations classified as serious.

A serious violation in relation to the use of carcinogens is defined in section 334 “Classification of Violations and Definitions” as:

Subsection 334(c)(4) For Carcinogens - a serious violation is a violation of any standard, order, or special order respecting the use of a carcinogen, as defined in 8 California Code of Regulations 330(f). However, the violation shall not be considered serious if the employer can demonstrate that he did not, and could not with the exercise of reasonable diligence, know of the presence of the violation or he can demonstrate that the Division should have determined that the violation was minor and resulted in no substantial health hazard.

Silica violations are currently classified as serious because silica is a regulated carcinogen under Article 110.70⁶.

7. Updated guidance prepared by Cal/OSHA with information on CT exams and other diagnostic studies.

Appendix B to section 5204 “Medical Surveillance Guidelines (Non-Mandatory)” provides medical information and recommendations to PLHCPs to aid in compliance with the medical surveillance provisions of section 5204. Updated guidance within Appendix B to section 5204 is needed.

⁶ <https://www.dir.ca.gov/title8/sb7g16a110.html>. CCR Article 110. Regulated Carcinogens. (Accessed 5/4/2023)

8. Reporting requirement for PLHCPs to inform Cal/OSHA of any silicosis diagnoses of moderate severity or worse.

Section 342 “Reporting Work-Connected Fatalities and Serious Injuries” requires employers and fire and police agencies to report work-related injuries to Cal/OSHA within eight hours of employer knowledge with some exceptions. Reporting requirements for silicosis diagnoses from PLHCPs are not currently included within the scope of title 8.

A requirement requiring reporting of silicosis to Cal/OSHA local health agencies and the CDPH will assist Cal/OSHA with understanding and addressing the silica exposure issues in California workplaces.

CONCLUSION AND ORDER

The Board has considered the petition of R. Terrazas, MD MPH, President, WOEMA, to make recommended changes to section 5204 by requiring an ETS to address the increasing cases of silicosis. The Board has also considered the recommendations of Cal/OSHA and Board staff. For reasons stated in the preceding discussion, the Petition is hereby DENIED as proposed and GRANTED to the extent that the Board request Cal/OSHA convene a representative advisory committee as soon as possible, to begin the standard process of making necessary amendments to the current regulation, in order to better protect workers exposed to the hazard of silica. Cal/OSHA should extend an invitation to the Petitioner to participate in the advisory committee deliberations.