

DEPARTMENT OF INDUSTRIAL RELATIONS
Occupational Safety and Health Standards Board
2520 Venture Oaks Way, Suite 350
Sacramento, CA 95833
Tel: (916) 274-5721
Website address www.dir.ca.gov/oshsb



TITLE 8. CALIFORNIA CODE OF REGULATIONS

General Industry Safety Orders, Section 5204 (Published on May 3, 2024)

OCCUPATIONAL EXPOSURES TO RESPIRABLE CRYSTALLINE SILICA

NOTICE IS HEREBY GIVEN that the Occupational Safety and Health Standards Board (Board) proposes to adopt, amend or repeal the foregoing provisions of Title 8 of the California Code of Regulations in the manner described in the Informative Digest, below.

PUBLIC HEARING

The Board will hold a public hearing starting at 10:00 a.m. on **June 20, 2024** in the **Claude Fellows Conference Room** of the **SCIF Vacaville Learning Center, 1010 Vaquero Circle, Vacaville, California**, as well as via the following:

- Video-conference at www.webex.com (meeting ID 146 963 6425)
- Teleconference at (844) 992-4726 (Access code 146 963 6425)
- Live video stream and audio stream (English and Spanish) at <https://videobookcase.com/california/oshsb/>

At this public hearing, any person may present statements or arguments orally or in writing relevant to the proposed action described in the Informative Digest.

WRITTEN COMMENT PERIOD

In addition to written or oral comments submitted at the public hearing, written comments may also be submitted to the Board's office. The written comment period commences on **May 3, 2024** and closes at 5:00 p.m. on **June 20, 2024**. Comments received after that deadline will not be considered by the Board unless the Board announces an extension of time in which to submit written comments. Written comments are to be submitted as follows:

By mail to Sarah Money, Occupational Safety and Health Standards Board, 2520 Venture Oaks Way, Suite 350, Sacramento, CA 95833; or

By email sent to oshsb@dir.ca.gov.

AUTHORITY AND REFERENCE

Labor Code (LC) section 142.3 establishes the Board as the only agency in the State authorized to adopt occupational safety and health standards. In addition, LC section 142.3 requires the adoption of occupational and health standards that are at least as effective as federal occupational safety and

health standards. The proposed regulations implement, interpret, and make specific Labor Code sections 142.3 which permits the Board to prescribe suitable protective equipment and control or technological procedures to be used in connection with occupational hazards and to provide for monitoring or measuring employee exposure for the protection of employees and LC section 144.6 which requires the Board to adopt regulations dealing with toxic materials or harmful physical agents that most adequately assure, to the extent feasible, that no employee will suffer material impairment of health or functional capacity even if the employee has regular exposure to the hazard for the period of their working life.

Section 144.6 also requires that the Board base standards on research, demonstrations, experiments and other appropriate information, taking into consideration the latest scientific literature, the reasonableness of the standards, and the experience gained under the health and safety laws.

LC section 9020 requires that the Board “adopt standards for carcinogens at least as restrictive as the federal requirements for use of carcinogens promulgated under Section 6 of the Occupational Safety and Health Act of 1970 (P.L. 91-596),” and that “it is the intent of the Legislature that the state shall exercise strong leadership in preventing employees, employers, and other persons from being exposed to carcinogens.”

LC section 9030 requires that the Board “adopt one or more standards requiring each employer which uses any carcinogen, including asbestos and vinyl chloride, to submit a written report regarding the use or any incident which results in the release of a potentially hazardous amount of a carcinogen into any area where employees may be exposed.”

LC section 9040 requires that “every employer using carcinogens shall provide for medical examinations of affected employees where required by standards adopted pursuant to subdivision (b) of Section 142.3.”

INFORMATIVE DIGEST OF PROPOSED ACTION/ POLICY STATEMENT OVERVIEW

This rulemaking adds additional protections to the title 8 silica general industry regulations (section 5204) in response to an outbreak of silicosis in the California artificial stone countertop fabrication industry. There are currently at least 127 known cases of silicosis among workers in this industry, 13 of whom have died of the disease at a young age. Silicosis is a permanent, disabling, incurable, and progressive disease that is often fatal. Nearly all the affected workers are low-income immigrant workers whose primary language is not English.

The rulemaking will improve requirements in section 5204 pertaining to engineering controls, work practices, medical surveillance, medical removal, communications, training, reporting, and respiratory protection, and it will improve the effectiveness of Cal/OSHA’s enforcement operations.

Most of the proposed changes to section 5204 originated in response to an April 2023 petition for an emergency temporary standard (ETS), which was submitted by the Western Occupational and Environmental Medicine Association (WOEMA) in response to the growing number of silicosis cases in the artificial stone fabrication industry. In that petition, WOEMA the pointed to four problems that called for immediate action: (1) at the time the petition was filed, about 50 workers in the industry

had been diagnosed with advanced silicosis, some of whom had died; (2) these workers were exposed to RCS while working with artificial stone; (3) artificial stone contains up to 95% silica; and (4) section 5204 is not well-suited to protecting workers in this industry.

The Petitioner recommended that the ETS require (1) greater control over regulated areas where fabrication work is conducted; (2) prohibition of dry fabrication processes; (3) use of supplied air or powered air purifying respirators (PAPRs); (4) annual reporting to Cal/OSHA; and (5) classification of all citations as serious.

In response to the WOEMA petition, Cal/OSHA drafted an ETS that recommended changes to strengthen section 5204 when employees cut, grind, polish or otherwise handle artificial stone, as well as natural stone that contains more than 10% silica. The Board approved those changes unanimously in December 2023, and the ETS went into effect on December 29, 2023.

When the Board approved the ETS in December 2023, OHB reported that the total number of known silicosis cases in the artificial stone industry had increased 92% in a period of five months, from 52 workers in July to 100 cases by December, including ten fatalities. OHB reported that one worker with severe silicosis was 27 years of age, was on continual oxygen, and had worked for a period of only 10 years in the industry.

In April 2024, OHB reported to Cal/OSHA that the number of known silicosis cases among workers in this industry had increased to 127, a 27% increase over a period of four months. OHB also reported that three additional deaths had occurred from silicosis, for a total of 13, and that 16 workers had received lung transplants.

The ETS has provided Cal/OSHA with new tools to protect workers in the artificial stone fabrication industry. Since December 29, 2023, Cal/OSHA has conducted 29 inspections of artificial stone fabrication shops and issued 13 Orders Prohibiting Use (OPUs) under subsection 5204 (g), closing shops until employers are able to demonstrate that they have effectively mitigated RCS exposures. Where it previously took Cal/OSHA several months to open an inspection and issue citations before an employer would be required to reduce RCS exposures, under the ETS Cal/OSHA has been able to move quickly and efficiently to require worker protections. These measures are more comprehensive and more effective than those previously required under section 5204.

In this rulemaking, the Board proposes to continue the changes to section 5204 that were introduced in the ETS, while also updating the medical surveillance subsection, adding a new medical removal subsection, and amending other subsections to improve their effectiveness in protecting workers from exposure to RCS. The Board expects that, over time, these improvements will steadily reduce the number of silicosis cases and deaths among workers in the artificial stone fabrication industry.

BACKGROUND

Artificial stone is a relatively new product in countertop manufacturing that has largely taken over the countertop marketplace from natural stone, such as granite and marble. In 2021, it surpassed all other materials to become the predominant countertop product in the U.S. for residential and

commercial applications, with a market size of \$17.7 billion. U.S. demand for artificial stone countertops is expected to continue growing at 9.6% annually through 2026, solidifying the material's position as the most popular type of countertop material used in the U.S.

Artificial stone technology consists of liquefying, pressurizing, and binding together crushed or pulverized stone with resins, epoxies, or other adhesives. The result is an agglomerate and uniform stone material that can be easily mass-produced in any size, desired color, and pattern.

Artificial stone typically contains 90% or more crystalline silica, a highly hazardous substance when inhaled as a dust. Artificial stone therefore represents a much greater hazard than natural granite, which normally contains less than 45% crystalline silica, and marble, which contains less than 10% silica. When cut or polished, artificial stone generates a high concentration of respirable crystalline silica (RCS) particles, as well as hazardous chemical emissions from the adhesive materials.

Artificial stone presents a danger to workers during manufacturing, fabrication (polishing, cutting to rough size, beveling, drilling holes, etc.), and installation (final cutting and drilling to fit on-site conditions). These processes result in large quantities of RCS particles being produced and inhaled by workers.

When RCS particles are inhaled, they become trapped in the lung tissue, leading to inflammation and scarring, which reduces the lungs' ability to transfer oxygen into the bloodstream. The resulting silicosis is a progressive, debilitating, incurable, and often fatal disease. The damage continues even after exposure to RCS ends.

Inhalation of respirable crystalline silica also can cause lung cancer, chronic obstructive pulmonary disease (COPD), kidney disease and a variety of autoimmune diseases.

Title 8 silica regulations in construction (1532.3) and general industry (5204) were established in 2016 and are identical in content to the corresponding federal OSHA regulations. They were established prior to the current silicosis epidemic in the artificial stone countertop industry. The construction regulation contains proactive and prescriptive engineering and respiratory protection controls, whereas the general industry regulation has no such protections. Therefore, the proposal is limited to updating the general industry regulations.

Limitations of Section 5204

Section 5204, as it existed prior to the silica ETS, is a performance standard that is not well-calibrated to the small shops and hazardous conditions that characterize the artificial stone fabrication industry. This is evidenced by (1) Cal/OSHA's 2019 Special Emphasis Program, which found 72% of employers to be out of compliance with section 5204; (2) the findings of Fazio et al (2023)¹, which reports that only 45% of artificial stone fabrication workers with silicosis reported using wet methods to control RCS exposures; and (3) the April 2023 report from the CDPH Occupational Health Branch showing that the number of known silicosis cases among workers in this industry had increased from 100 in

¹ Fazio JC, et al. Silicosis Among Immigrant Engineered Stone (Quartz) Countertop Fabrication Workers in California. *JAMA Internal Medicine*. Published online July 24, 2023. <https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/2807615>.

December 2023 to 127 in April 2024, a 27% increase over a period of four months, and that three additional silicosis deaths had occurred, for a total of 13, along with 16 workers who had received lung transplants.

Importantly, the pre-ETS Section 5204 contains three “loopholes” that allow employers to avoid implementing measures to protect workers from exposure to RCS:

- 1) Feasibility: 5204 allows employers to avoid implementing key protections in the standard by claiming that those protections are infeasible, shifting the burden of proof to Cal/OSHA [see subsection (f)(1), and renumbered subsections (h)(1)(A), (h)(1)(B), (h)(1)(C), (i)(1), and (i)(2)(B)].
- 2) “Objective data:” 5204 allows employers to exempt themselves from the standard in its entirety by claiming that RCS exposures are likely below the action level, without actually having to conduct exposure monitoring [see (a)(2)].
- 3) Monitoring: 5204 allows employers to conduct air monitoring on a single day and exempt themselves from the standard for that task, from that point onward, if the results show exposures are below the action level [see (d)(3)(B)].

The pre-ETS section 5204 makes enforcement difficult by requiring Cal/OSHA to prove that employee exposures to RCS are over the action level or permissible exposure limit for RCS before issuing citations and enforcing protective measures, including respiratory protection, engineering controls, improved work practices, training, and others.

The proposed changes to section 5204 will close these three loopholes for tasks performed on artificial stone (with >0.1% silica) or natural stone (with >10% silica), known as “high-exposure trigger tasks” in the proposal. The proposed changes will make RCS protections mandatory, regardless of “objective data” obtained by the employer, or exposure levels measured by the employer. This will allow Cal/OSHA to enforce immediately upon observing hazardous conditions rather than waiting to conduct time-consuming and resource-intensive air monitoring and laboratory analyses. This is similar to the existing asbestos and lead regulations.

The proposed changes to section 5204 take this approach because exposure monitoring can produce widely varying results on any given day; it is therefore not considered to be a reliable indicator of employee exposure, particularly when the consequences of exposure are so high, potentially leading to death. In addition, employers sometimes alter work processes or reduce production levels during exposure monitoring, such that the monitoring underestimates typical workplace exposures. This results in hazardous working conditions continuing and limits Cal/OSHA’s ability to ensure that employers implement the protections required under section 5204. Exposure monitoring is also resource-intensive for Cal/OSHA; it adds dozens of hours of work per investigation and delays implementation of necessary protective measures.

The proposed changes to section 5204 will retain a new subsection (g), Imminent Hazards, which was introduced in the silica ETS and allows Cal/OSHA to immediately issue an “Order Prohibiting Use” (OPU) when certain hazardous conditions are observed, without having to conduct air monitoring and lab analyses. An OPU requires the employer to shut down an operation or the shop itself, depending

on the extent of the hazard, pending abatement. This facilitates immediate protections for workers from exposures to RCS.

Covered Employers

The proposed amendments to the silica regulations will primarily apply to countertop manufacturing and fabrication. Cal/OSHA estimates there are approximately 841 countertop fabrication shops in California that employ 4,955 employees. About 816 (97%) of these shops are small businesses that employ fewer than 10 employees. About 25 shops are large employers. The revisions apply to high-exposure trigger tasks performed with artificial stone that contains >0.1% silica and to natural stone that contains >10% silica. Natural stone is included to ensure that workers who handle it will benefit from the safety improvements required by the proposed revisions to section 5204, which—under the existing standard—cannot otherwise be effectively enforced by Cal/OSHA.

A synopsis of the proposed changes is as follows:

Section 5204. OCCUPATIONAL EXPOSURES TO RESPIRABLE CRYSTALLINE SILICA Requirements of the Pre-ETS Subsection 5204

For general industry, covered employers are required to:

- Ensure that no employee is exposed to RCS above the permissible exposure limit (PEL, 50 $\mu\text{g}/\text{m}^3$ as an 8-hour time weighted average); (existing subsection c)
- Characterize employee exposures to RCS to determine if they may be at or above the action level (25 $\mu\text{g}/\text{m}^3$ as an 8-hour time weighted average) by conducting air monitoring or by deferring to “objective data,” defined as “calculations based on the composition of a substance,” or “industry-wide surveys;” (existing subsection d).
- Limit workers' access to areas where they could be exposed to RCS above the PEL (existing subsection e);
- Use dust controls to protect workers from silica exposures above the PEL, if feasible (existing subsection f);
- Establish and implement a written exposure control plan that identifies tasks that cause exposure and methods used to protect workers (existing subsection f);
- Provide respirators to workers when dust controls are not sufficient to limit exposures to or below the PEL (existing subsection f);
- Use housekeeping methods that do not create airborne dust, if feasible (existing subsection h);
- Offer medical exams including chest X-rays and lung function tests, within 30 days of initial hire and every three years for workers exposed at or above the action level for 30 or more days per year; require reporting of certain results to the employee and employer, followed by a specialist evaluation, as needed (existing subsection i) ;

- Train workers on work operations that result in RCS exposure; on RCS control measures in the workplace; and on the health hazards of RCS. Post signs warning of lung damage at entrances to “regulated areas,” as defined (existing subsection j); and
- Keep records of exposure measurements, objective data, and medical exams (existing subsection k).

Proposed Changes to the Existing Regulations

Subsection (a) Scope and application.

- “High-exposure trigger tasks” are covered by the protective measures required in the section, regardless of employee exposures, exposure assessments, or objective data. These tasks are those in which employees cut, grind or polish artificial stone (>0.1% silica) or natural stone (>10% silica).

Subsection (b) Definitions.

- New definitions are proposed for artificial stone, confirmed silicosis, high-exposure trigger task, qualified person, suspected silicosis and wet methods.

Subsection (d) Exposure assessment.

- Employers must monitor high-exposure triggers tasks (HETTs) for silica dust at least every 12 months to assess the effectiveness of dust controls and notify employees of the results.

Subsection (e): Regulated areas.

- Employees must perform all HETTs in a “regulated area,” as defined.

Subsection (f): Methods of compliance.

- Employers must provide employees with tools that flow enough water over the working edge to suppress dust.
- Employers must protect employees from dust during clean-up work.
- Compressed air must not be used to remove dust from clothing, tools, or surfaces; dust must not be disturbed during clean-up; rotation cannot be used to reduce employee exposures to RCS; employee must not walk or otherwise move through dust.
- Employers must expand the written exposure control plan to include air monitoring results; procedures for proper donning and doffing of personal protective equipment, including work clothing and respiratory protection; confirmation of reporting to Cal/OSHA under section 5203; and training procedures.
- Cal/OSHA may require the employer to take additional actions to protect employees through the issuance of an Order to Take Special Action in accordance with Section 332.3.

Subsection (g) Imminent hazards.

- Allows Cal/OSHA to quickly shut-down an operation or the shop itself if certain violations are observed by a Cal/OSHA compliance officer.

Subsection (h) Respiratory protection.

- Employers must provide a full-face, tight-fitting powered air-purifying respirator (PAPR) or respirator with equal or greater protection to each employee who performs a HETT, with an Assigned Protection Factor (APF) of 1000.
- Employees who use a PAPR must be fit-tested and trained to use it.
- The PAPR must be stored in a clean location.
- Under an exception, a less-protective respirator with APF of 25 or greater is allowed if the employer demonstrates that RCS exposure levels are below the action level based on sampling conducted every six months by a qualified person, as defined.
- A supplied air respirator is required for employees with confirmed or suspected silicosis, or as recommended by the physician or other licensed health care professional (PLHCP) or specialist.

Subsection (i) Housekeeping.

- The feasibility exemptions in the existing regulation are removed for HETTs.
- Dry sweeping and brushing, and the use of compressed air to clean clothing and surfaces, are prohibited.

Subsection (j) Medical surveillance.

- The employer must provide initial and annual medical exams for employees who engage in HETTs, and they must be offered at no cost to the employee and at a reasonable time and place.
- Under an exception, annual exams can be moved to one exam every three years if the employer demonstrates that RCS exposure levels are below the action level based on sampling conducted every six months by a qualified person, as defined.
- The required initial and periodic medical exams must include a more extensive medical and work history, as well as a computed tomography (CT) scan for employees with suspected silicosis or certain exposure conditions, or based on the PLHCP's determination.
- The employer is required to provide certain information to the PLHCP and must ensure that the PLHCP communicates the exam results to the employee. The PLHCP communicates their opinion to the employer, along with any recommended changes to the employee's working conditions, and the employer must convey this information immediately to the employee.

- PLHCPs are required to report silicosis and lung cancer cases to Cal/OSHA and CDPH, in addition to meeting reporting obligations under CCR title 17.

Subsection (k) Medical removal (A new subsection not in the silica ETS)

- If recommended by the PLHCP in order to reduce an employee's exposure to RCS, the employer is required to modify an employee's job or transfer the employee to comparable work.
- Up to six months, the employer is required to maintain the employee's earnings, seniority and other benefits, minus any payments the employee receives from workers' compensation or income received from another employer.
- The employer is required to pay for an independent medical review if requested by the employee. The results of the review are binding on all the parties.

Subsection (l). Communication of respirable crystalline silica hazards to employees.

- All training and communications must be in a language and at a literacy level appropriate for the employees.
- The signage for "regulated areas" must include the phrase, "Causes permanent lung damage that may lead to death" in English and Spanish.
- Employers must train employees in the symptoms of silicosis; how to employ dust controls, work practices and respiratory protection to prevent dust exposures; and how silica dust can worsen the effects of smoking and tuberculosis infection.
- Employers must encourage employees to report any symptoms related to exposure to RCS without fear of reprisal, and employers are prohibited from taking or threatening to take any adverse action against employees who report symptoms or who suffer from a silica-related illness.

Subsection (m). Reporting of silicosis.

- Employers must report confirmed silicosis and lung cancer cases within 24 hours to the California Department of Public Health (CDPH) and to Cal/OSHA.
- Within 24 hours of identifying a confirmed silicosis or lung cancer case, healthcare providers must report the case to Cal/OSHA, while also meeting their silicosis reporting obligations under CCR title 17

Subsection (n). Recordkeeping.

- The proposed revision was renumbered but no other changes were made to this subsection.

Deletion of former subsection (l) Dates.

- Former subsection (l) has been deleted as all the implementation dates listed have passed and the subsection has no effect.

The Board evaluated the proposed regulations pursuant to Government Code section 11346.5(a)(3)(D) and has determined that the regulations are not inconsistent or incompatible with existing state regulations. This proposal is part of a comprehensive system of occupational safety and health regulations. The consistency and compatibility of that system's component regulations is provided by such things as: (1) the requirement of the Federal Occupational Safety and Health Administration (OSHA) and the Labor Code that state regulations be at least as effective as their federal counterparts, and (2) the requirement that all state occupational safety and health rulemaking be channeled through a single entity (the Standards Board).

This proposal is at least as effective as the equivalent federal standards in Title 29 Code of Federal Regulations, section 1910.1053 published by OSHA.

Anticipated Benefits

In general, the proposed changes to section 5204 will continue the protections introduced by the silica ETS, which will steadily reduce worker exposures to RCS; make compliance clearer and more straightforward for employers; and improve the efficiency of Cal/OSHA's compliance program. By protecting employees from exposure to RCS, these changes will reduce case numbers and deaths due to RCS-attributable diseases, including lung cancer, kidney disease, COPD, and other nonmalignant respiratory illnesses, including silicosis, which is a permanently disabling and often fatal pulmonary disease. The proposed regulation will thereby prevent the direct and indirect impacts associated with these fatal and non-fatal conditions, including the cost of medical care and rehabilitation, as well as lost wages, benefits, and lifetime productivity. These costs are currently borne by employers, insurers, public programs, workers, and their families.

Over 10 years, the expected costs of the proposed regulation to businesses are \$106.5 million. Annual benefits are expected to increase slowly from \$0.7 million in year one to \$95.7 million by year ten, reaching a total of \$492 million over the 10-year period. These anticipated benefits are attributable to the effect the proposed revisions to section 5204 will have in preventing diseases and fatalities that would otherwise occur. This estimated benefit figure does not include indirect costs of pain and suffering, lost wages and benefits, and lost lifetime productivity that fall to employees and their families.

Finally, protecting workers from disabling and deadly diseases will also place the industry itself on a more secure footing. The industry will be subject to increasingly stringent regulatory oversight and other actions if it continues to cause disabling diseases and death among employees.

DISCLOSURES REGARDING THE PROPOSED ACTION

Mandate on Local Agencies and School Districts:

None.

Cost or Savings to State Agencies:

The revisions to section 5204 will relieve Cal/OSHA of costs associated with air sampling for RCS and laboratory analysis of those samples for workers who perform HETTs.

Cost to Any Local Government or School District Which Must be Reimbursed in Accordance with Government Code Sections 17500 through 17630:

None.

Other Nondiscretionary Cost or Savings Imposed on Local Agencies:

None.

Cost or Savings in Federal Funding to the State:

None.

Cost Impacts on a Representative Private Person or Business:

The Board is not aware of any cost impacts that a representative private person would incur in reasonable compliance with the proposed action.

The Board is aware that there are cost impacts that a representative business may incur in complying with the proposed action. For the 841 total fabrication shops, the Board estimated the total costs of the proposed regulation by deriving and aggregating total upfront costs, recurring costs, labor costs, and medical costs, which include requirements pertaining to medical surveillance and medical removal. In the first year of the proposed revisions to section 5204, the total cost for all small and large shops combined is estimated at \$23.4 million, of which \$19.2 million is distributed among 816 small shops and \$4.2 is distributed among 25 large shops. The cumulative 10-year cost for all small and large shops combined is \$106.5 million, of which \$91.7 million is distributed among the 816 small shops and \$14.8 million is distributed among the 25 large shops. The total average annual cost over this ten-year period is \$9.2 million for the 816 small shops and \$1.5 million for the 25 large shops. 97 percent of businesses affected are small businesses. Compliance costs include costs for engineering controls, housekeeping, respiratory protection, medical surveillance, medical removal, and training.

Statewide Adverse Economic Impact Directly Affecting Businesses and Individuals: Including the Ability of California Businesses to Compete:

The Board has made an initial determination that this proposal will not result in a significant, statewide adverse economic impact directly affecting businesses/individuals, including the ability of California businesses to compete with businesses in other states.

This proposal is expected to reduce serious illnesses, permanent disability, and deaths, by reducing employee exposures to respirable crystalline silica.

Because the proposed changes to section 5204 affect only 841 businesses, it will have a negligible impact on California businesses and their ability to compete. Some employees will be affected if their employer is unable or unwilling to comply with the new requirements, because those employers would be expected to exit the market. Other employers who are able and willing to comply with the

new requirements, thereby creating safer working conditions, will likely expand their business over time as unsafe operators exit the market. Because the stone fabrication industry is primarily localized to specific regions, fabrication shops that successfully implement the revisions to section 5204 are unlikely to experience competition from out-of-state operators that are not subject to the requirements—and associated costs—of the increased protections that will be required under the proposed changes to section 5204.

Significant Effect on Housing Costs:

None.

SMALL BUSINESS DETERMINATION

The Board has determined that the proposed amendments may affect small businesses.

California Government Code section 11346.3 defines small businesses as businesses that are independently owned and operated, not dominant in their field of operation and have fewer than 100 employees.

The total cost per small shop of the proposed revisions depends on whether the shop already uses wet methods. Based on the analysis conducted for the silica ETS, 367 (45%) of 816 small shops currently use wet methods, so the cost of implementing the proposed revisions in the first year for each of these shops is estimated at \$13,300. The remaining 449 (55%) small shops that do not already use wet methods will need to invest in these technologies in the first year of the regulation. The cost of implementing the proposed revisions in the first year for each of these shops is therefore 2.4 times greater, estimated at \$31,900. Over ten years, the average annual cost for each small shop that already uses wet methods is \$4,400, whereas the average annual cost for each shop that currently does not use wet methods is \$16,800.

For the 841 total fabrication shops affected by the proposed revision to section 5204, the total costs were estimated by deriving upfront costs, recurring costs, labor costs, and medical costs. In the first year of the proposed revisions to section 5204, the total cost for all small and large shops combined is estimated at \$23.4 million, of which \$19.2 million is distributed among 816 small shops and \$4.2 is distributed among 25 large shops. The cumulative 10-year cost for all small and large shops combined is \$106.5 million, of which \$91.7 million is distributed among the 816 small shops and \$14.8 million is distributed among the 25 large shops. The total average annual cost over this ten year period is \$9.2 million for the 816 small shops and \$1.5 million for the 25 large shops.

Savings in diseases and deaths among employees are expected to accrue over this ten-year period, as noted above.

RESULTS OF THE ECONOMIC IMPACT ASSESSMENT/ANALYSIS

Given the small size of the stone fabrication industry relative to the California economy, the proposed changes to section 5204 will have a negligible effect on the creation or elimination of jobs. They will likely eliminate some businesses, but may also expand existing businesses in this sector; they are unlikely to cause the creation of new businesses. The new regulations will provide immediate safety benefits to workers in this industry by requiring effective and enforceable protections from exposures

to RCS. Over subsequent years, these protections will result in fewer disability cases and deaths from silicosis and other diseases attributable to RCS exposure among workers in this industry. This will benefit these workers and their families, as well as others who bear the direct and indirect costs of early disease, disability and death, including insurers, employers, hospital systems, and public safety net programs. Aside from the families of stone fabrication workers, the new regulations will not have an affect on the broader health and welfare of California residents. The new regulation will not affect the state's environment.

CONSIDERATION OF ALTERNATIVES

In accordance with Government Code Section 11346.5(a)(13), the Board must determine that no reasonable alternative it considered to the regulations or that has otherwise been identified and brought to its attention would either be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provision of law than the proposal described in this Notice.

Based on in-person and remote meetings with representatives of the stone fabrication industry and artificial stone manufacturing industry, the Board considered two alternatives to the current proposal: (1) limiting the proposal strictly to requiring wet methods when fabricating artificial stone, and authorizing the Division to shut down fabrication shops that do not use wet methods; or (2) prohibit the cutting, grinding and polishing of artificial stone.

The Board rejected alternative (1) because it would not provide sufficient protections for workers from exposure to RCS. Studies from National Institute for Occupational Safety and Health (NIOSH) and the Georgia Institute of Technology have shown that even with fully operational wet methods, exposures are often over the PEL. Additional protections are therefore needed. The proposed revision therefore requires improved protections in housekeeping, respiratory protection, medical surveillance, medical removal, training, signage and reporting, all of which play a role in reducing RCS exposures.

The Board rejected alternative (2) because it could incentivize the growth of illegal fabrication shops that are hidden from regulators. These shops would continue to use unsafe methods and endanger their employees. This approach could also incentivize fabrication shops to open in adjacent states where protective methods are not in place.

CONTACT PERSONS

Inquiries regarding this proposed regulatory action may be directed to Autumn Gonzalez (Acting Executive Officer) or the designated back-up person, Amalia Neidhardt (Principal Safety Engineer) at the Occupational Safety and Health Standards Board, 2520 Venture Oaks Way, Suite 350, Sacramento, CA 95833; (916) 274-5721.

AVAILABILITY OF STATEMENT OF REASONS, TEXT OF THE PROPOSED REGULATIONS AND RULEMAKING FILE

The Board will have the entire rulemaking file available for inspection and copying throughout the rulemaking process at its office at the above address. As of the date this notice is published in the

Notice Register, the rulemaking file consists of this notice, the proposed text of the regulations, the Initial Statement of Reasons, supporting documents, or other information upon which the rulemaking is based. Copies may be obtained by contacting Autumn Gonzalez or Amalia Neidhardt at the address or telephone number listed above.

AVAILABILITY OF CHANGED OR MODIFIED TEXT

After holding the hearing and considering all timely and relevant comments received, the Board may adopt the proposed regulations substantially as described in this notice. If the Board makes modifications that are sufficiently related to the originally proposed text, it will make the modified text (with the changes clearly indicated) available to the public at least 15 days before the Board adopts the regulations as modified. Please request copies of any modified regulations by contacting Autumn Gonzalez or Amalia Neidhardt at the address or telephone number listed above. The Board will accept written comments on the modified regulations for at least 15 days after the date on which they are made available.

AVAILABILITY OF THE FINAL STATEMENT OF REASONS

Upon its completion, copies of the Final Statement of Reasons may be obtained by contacting Autumn Gonzalez or Amalia Neidhardt at the address or telephone number listed above or via the internet.

AVAILABILITY OF DOCUMENTS ON THE INTERNET

The Board will have rulemaking documents available for inspection throughout the rulemaking process on its web site. Copies of the text of the regulations in an underline/strikeout format, the Notice of Proposed Action and the Initial Statement of Reasons can be accessed through the Standards Board's website at <http://www.dir.ca.gov/oshsb>.