

OSHA's Crystalline Silica Rule: General Industry and Maritime

OSHA is issuing two standards to protect workers from exposure to respirable crystalline silica — one for general industry and maritime, and the other for construction — in order to allow employers to tailor solutions to the specific conditions in their workplaces.

Who is affected by the general industry and maritime standard?

About 295,000 workers are exposed to respirable crystalline silica in over 75,000 general industry and maritime workplaces. Exposure to respirable crystalline silica can cause silicosis, lung cancer, other respiratory diseases, and kidney disease.

Some of the affected industries are shown below.

Number of Workers Exposed to Respirable Crystalline Silica in Selected General Industry/ Maritime Sectors		
Industry sector	Workers currently exposed	Workers currently exposed above the new PEL
Asphalt Roofing Materials	3,158	1,410
Concrete Products	32,981	9,391
Cut Stone	9,429	5,243
Dental Laboratories	31,105	864
Foundries	34,591	12,173
Jewelry	6,772	2,434
Porcelain Enameling	4,113	1,654
Pottery	6,269	2,496
Railroads	16,895	5,340
Ready-Mix Concrete	27,123	19,941
Shipyards	3,038	2,228
Structural Clay Products	7,893	3,198
Support Activities for Oil and Gas Operations	16,960	11,207

Source: OSHA Directorate of Standards and Guidance

OSHA estimates that over 100,000 workers in general industry and maritime are exposed to silica levels that exceed the new permissible exposure limit (PEL).

What does the standard require?

The standard for general industry and maritime requires employers to:

- Measure the amount of silica that workers are exposed to if it may be at or above an action level of **25 µg/m³** (micrograms of silica per cubic meter of air), averaged over an 8-hour day;
- Protect workers from respirable crystalline silica exposures above the permissible exposure limit of **50 µg/m³**, averaged over an 8-hour day;
- Limit workers' access to areas where they could be exposed above the PEL;
- Use dust controls to protect workers from silica exposures above the PEL;
- Provide respirators to workers when dust controls cannot limit exposures to the PEL;
- Restrict **housekeeping** practices that expose workers to silica where feasible alternatives are available;
- Establish and implement a **written exposure control plan** that identifies tasks that involve exposure and methods used to protect workers;
- Offer medical exams — including chest X-rays and lung function tests — every three years for workers exposed at or above the action level for 30 or more days per year;
- Train workers on work operations that result in silica exposure and ways to limit exposure; and
- **Keep records** of workers' silica exposure and medical exams.

Examples — Dust control methods

In most cases, dust controls such as wet methods and ventilation can be used to limit workers' exposure to silica. These technologies are widely available, affordable and already commonly used by many employers.



A worker cutting granite using a saw that applies water to the blade. The water reduces the amount of silica-containing dust that gets into the air.



Photo: Alliance — OSHA Cooperative Program

A worker grinding castings in a foundry. The work is performed in a ventilated booth to reduce the worker's exposure to silica.

When are employers required to comply with the standard?

General industry and maritime employers must comply with all requirements of the standard by **June 23, 2018**, except for the following:

- **Medical surveillance** must be offered to employees who will be exposed **at or above the action level** for 30 or more days a year starting on June 23, 2020. (Medical surveillance must be offered to employees who will be exposed **above the PEL** for 30 or more days a year starting June 23, 2018.)
- **Hydraulic fracturing** operations in the oil and gas industry must implement engineering controls to limit exposures to the new PEL by June 23, 2021.

Additional information

Additional information on OSHA's silica rule can be found at www.osha.gov/silica.

OSHA can provide extensive help through a variety of programs, including technical assistance about effective safety and health programs, workplace consultations, and training and education.

OSHA's On-site Consultation Program offers free and confidential occupational safety and health services to small and medium-sized businesses in all states and several territories across the country, with priority given to high-hazard worksites. On-site consultation services are separate from enforcement and do not result in penalties or citations. Consultants from state agencies or universities work with employers to identify workplace hazards, provide advice on compliance with OSHA standards, and assist in establishing and improving safety and health management systems. To locate the OSHA On-site Consultation Program nearest you, call 1-800-321-OSHA (6742) or visit www.osha.gov/dcsp/smallbusiness.

For more information on this and other health-related issues impacting workers, to report an emergency, fatality, inpatient hospitalization, or to file a confidential complaint, contact your nearest OSHA office, visit www.osha.gov, or call OSHA at 1-800-321-OSHA (6742), TTY 1-877-889-5627.

This is one in a series of informational fact sheets highlighting OSHA programs, policies or standards. It does not impose any new compliance requirements. For a comprehensive list of compliance requirements of OSHA standards or regulations, refer to Title 29 of the Code of Federal Regulations. This information will be made available to sensory-impaired individuals upon request. The voice phone is (202) 693-1999; teletypewriter (TTY) number: (877) 889-5627.

For assistance, contact us. We can help. It's confidential.



www.osha.gov (800) 321-OSHA (6742)



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