

## New Proposed Silica Regulation

Respirable crystalline silica - very small particles at least 100 times smaller than ordinary sand you might encounter on beaches and playgrounds - is created during work operations involving stone, rock, concrete, brick, block, mortar, and industrial sand. Exposures to respirable crystalline silica can occur when cutting, sawing, grinding, drilling, and crushing these materials. These exposures are common in brick, concrete, and pottery manufacturing operations, as well as during operations using industrial sand products, such as in foundries, sand blasting, and hydraulic fracturing (fracking) operations in the oil and gas industry. Inhalation of very small (respirable) crystalline silica particles puts workers at risk for silicosis, lung cancer, chronic obstructive pulmonary disease (COPD), and kidney disease.



OSHA currently enforces 40-year-old permissible exposure limits (PELs) for crystalline silica in general industry, construction, and shipyards that are outdated, inconsistent between industries, and do not adequately protect worker health. OSHA recently released a proposed rule that will bring protections for silica workers into the 21st century.

Workers' exposures would be limited to a new PEL of 50 micrograms of respirable crystalline silica per cubic meter of air ( $\mu\text{g}/\text{m}^3$ ), averaged over an eight-hour day. The new PEL would be the same in all industries covered by the rule. The proposed rule also includes provisions for measuring how much silica workers are exposed to, limiting

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workers' access to areas where silica exposures are high, using effective methods for reducing exposures, providing medical exams to workers with high silica exposures, and training workers about silica-related hazards and how to limit exposure.

Remember, this is a proposal, not a final rule. You and your company can participate in development of the rule by submitting comments and participating in public hearings. Go to <https://www.osha.gov/silica/index.html> to learn how to participate.

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## Consultation Problem Solver

This edition of the "Consultation Problem Solver" is a bit different. It does not cover one case, but some trends in noise and hearing conservation hazards that we are identifying in the field. Additionally enforcement is seeing similar things; while consultation does not issue fines, enforcement does if violations are found. Therefore, this article should serve as a "checklist" for your own noise and hearing conservation program in your workplace.

- 1.) **Failure to assess/sample noise in the workplace.** Employers can rent or purchase a sound level meter or dosimeter to assess their own workplace to determine if employees are exposed to noise at or above 85 dBA for an eight-hour time-weighted average. Your insurance carrier may also be able to assist in this capacity.
- 2.) **Failure to review audiograms to ensure all standard threshold shifts (STSs) are identified, followed-up upon, and the STSs (as appropriate) are recorded on the OSHA 300 log.** We have seen numerous cases where the testing company did notify the employer about STSs, the employer did not follow-up with the employee, and even some cases where the testing company itself missed the STS and did not report them to the employer. Consider all STSs that are not recordable as near misses, increase training, and refit hearing protection.
- 3.) **Failure to ensure employees are wearing hearing protectors correctly.** We see numerous cases where earplugs are improperly inserted in the ear; they are half out of the ear canal, at an angle, or not properly fitted to the employee. Additionally, the standard requires a selection of protectors to be available to the employees. These can also assist in fitting and comfort problems for the employees when they have a greater variety of protectors at their disposal.

4.) **Failure to take simple steps to minimize noise exposure.** Control of the noise source is the best way to protect workers from excessive noise. Can you re-locate or add a muffler to a noise source? Can a barrier be made or can equipment be isolated? Could a snorkel be used for intake air? Would some simple preventative maintenance reduce squeaks, rattles, tool noise, etc?

TOSHA Consultative Services is a free service and will conduct full-shift employee exposure assessments for noise, recommend and assist with implementation of work practice controls and engineering controls that reduce employee exposures, and collaborate with staff on a safety and health management system for the onsite Hearing Conservation Program. The end results are improved workplace safety, which results in an overall reduction in operational costs.

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## TOSHA Tips

**Condition:** Protective eye and face equipment was not required where there was a reasonable probability of injury that could be prevented by such equipment.

**Potential Effects:** Chemical burns and blindness from splashes; radiation burns and blindness from direct exposure to the welding arc; burns and blindness from flying sparks; and cuts, punctures and blindness from flying chips.

**Standards:** Twenty-nine CFR 1910.133(a)(1)

**Recommended Action:** Provide and require the use of appropriate eye protection against specific eye hazards in the workplace. Protect the eyes and face from impact, heat, dust, chemicals, and optical radiation. Eye injuries alone cost more than \$300 million per year in lost production time, medical expenses, and worker compensation.

Wearing this protection should be a condition of employment. Ensure, through supervision and other means (e.g., training, signs, discipline, or incentives), that the protection is being worn. It is the employer's responsibility to pay for this equipment when it is determined by



reason of an employee exposure to a hazard that it is necessary.

Employees who must wear prescription glasses should be provided with "safety" prescription glasses. The employer must pay for the glasses, but not the eye exam and the prescription.

Do not rely on personal protective equipment (PPE) devices alone to provide protection against hazards. Use PPE in conjunction with guards, engineering controls, and sound manufacturing practices.

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# Annual Report on TOSHA Activities

Through the past year, the TOSHA senior management staff has remained stable. TOSHA lost a few compliance officers to other jobs, but we are working diligently to refill those positions and bring the staff up to full capacity. The agency has remained stable in terms of available positions at 92 over the past few years.

From July 1, 2011, through June 30, 2013, the TOSHA staff conducted 1,808 inspections, identified 6,852 hazards, and proposed \$2.6 in civil penalties. Consultative Services conducted 414 visits at the invitation of the employer, assisted employers with the correction of 3,375 hazards, and proposed \$0 in penalties. Sixty-five discrimination complaints were filed with the Agency during that same time frame; two of those cases were forwarded to the Tennessee Attorney General for prosecution when TOSHA could not reach a settlement between the employee and employer after agreeing that discrimination had occurred.

Starting in October of 2013, TOSHA is working on the following Special Emphasis Programs:

- Amputations (National)
- Combustible Dust (National)
- Food Flavoring Containing Diacetyl (National)
- Hexavalent Chromium (National)
- Lead (National)
- Isocyanates (New)

- Recordkeeping (National)
- Trenching And Excavation (National)
- PSM Covered Chemical Facilities (National)
- Carbon Monoxide (Tennessee)
- Falls (Tennessee)
- Noise (Tennessee)
- Firefighter Protection
- Annual Retraining & Records
- Placarding of Non-containerized Chemicals
- Chemical List Submission Upon Request

*In addition, Governor Haslam signed a bill to update the TN Right-to-Know law to align with the federal GHS (Globally Harmonized System) changes to the hazard communication standard. The TN Right-to-Know law retains the following requirements in addition to the federal requirements.*

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## Factory Explosion, Fire, and Building Collapse

On Monday morning, March 20, 1905, the shoe factory of R. B. Grover & Co., located in the city of Brockton, Mass., was suddenly and completely destroyed by fire. The Dahlborg Block, a nearby three-story structure, the building known as the old Drake Tavern, four dwelling houses, two storehouses, and a blacksmith shop were also wholly consumed, besides three dwelling houses partially burned. The property loss reached \$250,000, and the buildings destroyed covered some four acres of ground. But great as was the property loss, it was insignificant when compared with the destruction of human life and the injuries inflicted upon scores of workers.

The firm of R. B. Grover & Co. was well known, the Emerson shoe which they manufactured having gained for them a wide reputation. On the morning of the disaster some 360 workers were in the four-story-high frame building. At 10 minutes before eight o'clock in the morning, suddenly, and without previous warning, a large back-up boiler in use while

the newer every-day boiler was being flushed, exploded. It was carried up through the building, breaking the foundations and separating the timbers, causing the factory to collapse. The boiler was driven like a huge projectile through the dwelling house located north of the factory, which was the home of the company engineer, and one hundred feet farther north into the dwelling house owned and occupied by Miss Mary Pratt, crashing into the side of the house and knocking it some two feet from its foundations.



Fire immediately broke out and spread all through the factory. The escaping gas from the broken pipes fed the flames, which within a few minutes enveloped the entire building. Even the suddenness and fierceness of the fire would not have caused the loss of life had it not been for the collapse of the structure. In some places the floors of the different stories fell to within two or three feet of each other, and the spaces between were filled with a tangled mass of machinery, pipes, and shafting. These pinned many of the workmen down as well as hemmed in and cut off the escape of others. Fifty-six persons perished in the fire, and two others died within a few days from the injuries received. About 50 more were seriously hurt, and many others had narrow escapes, some of whom received wounds, burns, and bruises, and many were rendered complete nervous wrecks.

Among the killed and injured were workmen who had been in the employ of the factory for only a few days; others who had been a long time idle, and had just returned; while still others had gone to work for the first time that fatal Monday morning. Of the last class mentioned was Mrs. Dora Clark, of Whitman, who entered the factory for the first time in her life only 10 minutes before the explosion occurred. The rending floor that threw a friend with whom she was conversing outward and to safety, threw her inward and into a seething caldron of fire, in which her body was burned beyond recognition.

Reference: "History of the Brockton Relief Fund in Aid of Sufferers of the R. B. Grover & Co. Factory Fire."

[History of the Brockton Relief Fund](#)

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