

OSHA releases final rule updating beryllium exposure limits

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[BERYLLIUM FINAL RULE](#) [OSHA STANDARDS](#) [PERMISSIBLE EXPOSURE LIMIT](#)



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OSHA has issued a long-awaited final rule lowering occupational exposure limits for beryllium, a regulation that advocates say blossomed from an innovative collaboration between labor and industry.

In 2012, the United Steelworkers and Mayfield Heights, OH-based Materion Brush – the only U.S. producer of pure beryllium metal – submitted to OSHA a joint recommendation for a model beryllium standard.

OSHA's recently published rule has some modifications – including the addition of protections for construction and shipyard workers.

“This is a very unique regulation, especially in the realm of worker safety and health, where the largest company in the industry affected by the rule comes to OSHA and acknowledges the current regulation has to be changed and presents a proposal along with a major union to OSHA,” said Dr. Sammy Almashat, a researcher with Washington-based watchdog organization Public Citizen’s Health Research Group. “We don’t see how it can be justified if Congress decided to do away with this.”

Beryllium, a lightweight metal stronger than steel and lighter than aluminum, is used in various industries, including electronics and energy. It can be highly toxic when released into the air where workers can inhale it. Exposure to beryllium is linked to lung cancer and an incurable condition called chronic beryllium disease. Even low-level exposures can cause serious health problems, OSHA states.

Workers exposed to beryllium under OSHA’s previous permissible exposure limits “face a significant risk of material impairment to their health,” according to the rule, which was published in the Jan. 9 *Federal Register*.

Under the rule, scheduled to go into effect March 10, the 8-hour PEL decreases to 0.2 micrograms of beryllium per cubic meter of air from the previous limit of 2.0 micrograms. A short-term exposure limit of 2.0 micrograms over a sampling period of 15 minutes was set. The rule also has requirements for personal protective equipment, medical exams, training and other protections.

‘A long time’

The previous PELs were “based on decades-old studies,” OSHA stated in a Jan. 6 press release.

“Outdated exposure limits do not adequately protect workers from beryllium exposure,” then-OSHA administrator David Michaels said in the release. “OSHA’s new standard is based on a strong foundation of science and consensus on the need for action, including peer-reviewed scientific evidence, a model standard developed by industry and labor, current consensus standards and extensive public outreach. The new limits will reduce exposures and protect the lives and lungs of thousands of beryllium-exposed workers.”

In 1949, the Atomic Energy Commission established the first occupational exposure limit for beryllium – 2.0 micrograms for an 8-hour time-weighted average. OSHA adopted a national consensus standard for beryllium and beryllium compounds for general industry in 1971. The standard set a PEL of 2.0 micrograms for an 8-hour time-weighted average.

In 1975, the agency proposed a new standard for all industries to lower the limit to 1.0 micrograms based on research that the metal caused cancer in tests on animals. The proposal also included provisions for exposure monitoring, medical surveillance, training and other protections. However, industry officials, defense officials and others pushed back against a new standard.

OSHA later denied petitions for an emergency temporary standard, including a 2001 petition from Public Citizen and the Paper, Allied-Industrial, Chemical and Energy Workers International Union, to lower the limit to 0.2 micrograms. Still, the agency published a Request for Information in 2002.

“We are happy the rule is now in place; we’re unhappy hundreds of workers died in the meantime from chronic beryllium disease and lung cancer before the rule was finally put in place,” Almashat said.

The United Steelworkers has advocated an OSHA rule for beryllium since the early 1970s. During his first full day working with the union, Michael Wright represented USW at OSHA beryllium hearings in 1977.

“It’s been a long time,” said Wright, USW’s director of health, safety and environment. “On a personal note, I’ve known people who have died from beryllium disease. Going forward, it will save a lot of people, but we can also mourn for those who were not saved.”

““We all know there are people in Washington who are ideologically opposed to any regulation, even those that benefit industry. I hope it’ll make a difference that this rule was supported by the union with the most exposed beryllium workers and the company that dominates the industry in the U.S. ””

MICHAEL WRIGHT
UNITED STEELWORKERS

Multiple industries

Other industries that use beryllium include aerospace, telecommunication, medical and defense.

Most of the at-risk employees work in foundry and smelting operations, fabricating, machining, grinding beryllium metal and alloys, beryllium oxide ceramics manufacturing, and dental labs, according to OSHA, which says the rule will affect about 62,000 workers.

The agency’s proposed rule, published in August 2015, covered workers in general industry. However, the final rule also protects about 11,500 construction and shipyard workers – roughly 19 percent of all beryllium-exposed workers, according to Public Citizen.

“If they hadn’t been covered, that would have been a huge gap in coverage, so we are completely thrilled that OSHA worked hard to ensure all workers exposed to beryllium across industries are protected under this new standard,” said Emily Gardner, worker health and safety advocate for Public Citizen’s Congress Watch division.

A Jan. 6 press release from the House Committee on Education and the Workforce noted that shipyard workers can be exposed to airborne beryllium from abrasive blasting with coal slag, welding rods and non-sparking tools made with the metal. Rep. Bobby Scott (D-VA), ranking member of the committee, praised the rule.

“The previous beryllium standard was obsolete the day it was issued back in 1948, and data gathered by the Navy and the National Institute for Occupational Safety and Health demonstrated that shipyard workers need improved protections due to the risks from abrasive blasting with beryllium-containing coal slag,” Scott said in the release.

The biggest difference between the recommendation from Materion Brush and USW and the final rule from OSHA is the addition of construction and shipyards industries, Wright said. The union is pleased with their inclusion – the recommendation did not include provisions for those industries because doing so would have required expanding the group working on the recommendation, making the process “too unwieldy,” he explained. Other differences between the recommendation and the final rule were small and technical, such as how to interpret the findings of beryllium sensitization, Wright added.

“The final rule is pretty close to what we recommended, and the most important things, like the permissible exposure level, [are] what we recommended,” Wright said.

A Materion spokesperson declined comment, stating that the company first needs to complete a review of the 900-page document. In December, the company sent a letter to Michaels expressing concern that the draft final rule differed from the proposed standard, including changes it felt posed economic and technical challenges to companies.

Going forward

Supporters of the rule hope the Trump administration will not undo it.

Beyond the regulation’s representation of a collaboration between labor and industry, the rule has not been at the top of congressional target lists, unlike silica and some other rules, Gardner said. (Critics of the silica rule, which was published in March, have claimed compliance will be costly and infeasible.) And the debate about protecting workers from beryllium has been settled, Almashat added.

“This limit had to be lowered drastically to save workers’ lives,” Almashat said. “It would be a tragedy if this rule was reversed after so many years of struggle to get it put in place.”

Wright agreed that industry support for the rule provides optimism for it remaining in place. He noted that “a significant number” of USW members voted for President Donald Trump, and all of the members want safe workplaces. He said the union is prepared to defend the rule if necessary.

“We all know there are people in Washington who are ideologically opposed to any regulation, even those that benefit industry,” Wright said. “I hope it’ll make a difference that this rule was supported by the union with the most exposed beryllium workers and the company that dominates the industry in the U.S. There’ll probably be some individual companies and users who may not support the rule just because it will cost them a little additional money to protect their workers.”

Per year, the cost of the rule will be \$73.9 million, while its benefits will be \$560.9 million, OSHA estimates. The agency claims the rule will annually save the lives of 94 workers from beryllium-related diseases and prevent 46 new cases.

Employers will have one year to comply with most of the standard’s provisions. At press time, the requirement for employers to provide change rooms and showers was scheduled to begin March 11, 2019, and the obligation for implementing engineering controls on March 10, 2020.

A lower level

Although Public Citizen's representatives said they support the new rule, they hope that the PEL eventually will be lowered to 0.1 micrograms.

"Not only does the science now show that 0.2 would still lead to too many workers getting sick and injured, it also seems feasible to lower the limit even further to 0.1," Almashat said. "We understand, especially given the current climate, this may have been the most OSHA could have done. That's why we're going to vigorously defend the current rule against any attempts to do away with the rule. Even this rule can be improved in the future. We'll be working on doing that in the coming years."

Wright said USW would like to see the limit "go as low as is feasible."

"We were convinced 0.2 was that limit at this time," he added. "But if that picture changes in the future, we would support going lower."