

Comparison Summary of OSHA's Proposed Standard for Beryllium and Regulatory Alternatives (29 CFR 1910.1024)

(a) Scope and Application

Proposed Standard

The proposed Beryllium standard including beryllium in all forms in general industry but excludes the construction and maritime industries. It excludes articles as defined in the Hazard Communication Standard that the employer does not process. It excludes industries using materials containing less than 0.1% beryllium by weight.

Regulatory Alternative #1a

Regulatory Alternative #1a would expand the proposed standard to all operations in general industry where beryllium exists only as a trace contaminant in materials that contain no more than 0.1% beryllium by weight.

Regulatory Alternative #1b

Regulatory Alternative #1b is the same as #1a with the exception that the employer can be exempted from the standard if they can show the employee's exposures will not meet or exceed the action level or exceed the short term exposure limit (STEL).

Regulatory Alternative #2a

Regulatory Alternative #2a would expand the scope of the proposed standard to include employers in the construction and maritime industries.

(b) Permissible Exposure Limits

Proposed Standard

The proposed standard sets the permissible exposure limits (PEL) as a Time Weighted Average (TWA) PEL of $0.2 \mu\text{g}/\text{m}^3$ calculated as an 8-hour TWA and a Short Term Exposure Limit (STEL) of $2\mu\text{g}/\text{m}^3$ averaged over a period of 15 minutes. The Action Level (AL) will be $0.2 \mu\text{g}/\text{m}^3$.

Regulatory Alternative #2b

Regulatory Alternative #2b would update the 1910.1000 Tables Z-1 and Z-2, 1915.1000 Table Z, and 1926.55 Appendix A so that the proposed TWA PEL and STEL would apply to all employers and employees in general industry, shipyards, and construction, including occupations where beryllium exists only as a trace contaminant.

Regulatory Alternative #3

Regulatory Alternative #3 would adopt a STEL of 5 times the PEL at any level.

Regulatory Alternative #4

Regulatory Alternative #4 would change the proposed PEL of $0.2 \mu\text{g}/\text{m}^3$ to $0.1 \mu\text{g}/\text{m}^3$ and an AL of $0.05 \mu\text{g}/\text{m}^3$.

Regulatory Alternative #5

Regulatory Alternative #5 would raise the PEL to $0.5 \mu\text{g}/\text{m}^3$ and the AL to $0.25 \mu\text{g}/\text{m}^3$

Regulatory Alternative #7

Regulatory Alternative #7 would update the Z tables for 1910.1000 so the proposed TWA and STEL would apply to all workers in general industry. All other provisions of the standard would be dropped.

Regulatory Alternative #8

Regulatory Alternative #8 would apply ancillary provisions of the beryllium standard only where exposures exceed the proposed TWA PEL of $0.2 \mu\text{g}/\text{m}^3$ or the proposed STEL of $2 \mu\text{g}/\text{m}^3$.

(c) Exposure Monitoring

Proposed Standard

The proposed standard would require initial monitoring and annual monitoring if monitoring indicates that exposures are at or above the AL or PEL.

Regulatory Alternative #9

Regulatory Alternative #9 would require monitoring every 180 days when exposures are between the AL or STEL and the PEL.

Regulatory Alternative #10

Regulatory Alternative #10 would require monitoring every 180 days when exposures are above the AL or STEL. It would also require this monitoring if exposures exceed the PEL

Regulatory Alternative #11

Regulatory Alternative #11 would require monitoring every 180 days when exposure above AL/STEL, quarterly monitoring when exposure above PEL

(d) Beryllium work areas and Regulated Areas

Proposed Standard

The proposed standard requires the employer to maintain a beryllium work area regardless of the level of exposure. Regulated Areas will be maintained when the STEL or PEL is exceeded.

Regulatory Alternative #12

Regulatory Alternative #12 would remove the requirement for regulated areas and base ancillary provisions on the PEL or STEL.

(e) Methods of Compliance

Proposed Standard

The proposed standard requires at least one engineering controls in beryllium work areas (paragraph (f)(2)).

Regulatory Alternative #6

Regulatory Alternative #6 would eliminate the engineering and work practice controls provision currently specified in paragraph (f)(2). This would not eliminate the need for engineering controls to lower exposure levels to or below the TWA PEL and STEL; rather, it dispenses with the mandatory use of certain engineering controls that must be installed above the action level but at or below the TWA PEL.

(f) Respiratory Protection

The proposed standard follows the Respiratory Protection Standard (29 CFR 1910.134).

(g) Personal Protective Equipment and Clothing

Proposed Standard

The proposed standard follows the Personal Protective Equipment Standard (29 CFR 1910 Subpart I) when: Exposure could exceed the PEL or STEL, when clothing or skin may become visibly contaminated, or where skin may be exposed to soluble beryllium compounds.

Regulatory Alternative #13

Regulatory Alternative #13 would require PPE when there is contact with beryllium or beryllium contaminated surfaces.

(h) Hygiene Areas and Practices

The proposed standard requires wash facilities. Change rooms if removal of clothes is needed. Showers are required when the PEL or STEL may be exceeded or contamination of the hair or body parts other than the hands, face, and neck are possible. Employer must have clean eating and drinking areas. No eating, drinking, smoking, or chewing in regulated areas.

(i) Housekeeping

The proposed standard requires cleaning by HEPA vacuuming. Use of dry sweeping and compressed air is prohibited unless other methods are not effective. If sweeping or dry brushing is unavoidable proper PPE and respiratory protection is required.

(j) Medical Surveillance

Proposed Standard

The proposed standard places employees in the medical surveillance program if any of the following requirements are met:

1. They work in a regulated area for more than 30 days in the past 12 months
2. If they show signs of CBD
3. If exposed to Be in an emergency
4. If they were exposed to Be above 0.2 µg/m³ for more than 30 days in a 12 month period for 5 years or more

A medical exam is required within 30 days if criteria is met and annually thereafter. An exam is required upon termination if the last one was longer than 6 months ago.

Regulatory Alternative #14

Regulatory Alternative #14 would make medical surveillance available to employees exposed above the PEL or STEL even if less than 30 days per year.

Regulatory Alternative #15

Regulatory Alternative #15 would make medical surveillance available to employees exposed above the AL even if less than 30 days per year.

Regulatory Alternative #16

Regulatory Alternative #16 would eliminate testing for beryllium sensitization in medical surveillance program.

Regulatory Alternative #17

Regulatory Alternative #17 would require employers to offer annual sensitization testing instead of biannual testing.

Regulatory Alternative #18

Regulatory Alternative #18 would drop the CT scan requirement

Regulatory Alternative #19

Regulatory Alternative #19 would increase the frequency of CT scans from every two years to annually.

Regulatory Alternative #20

All periodic exams in medical surveillance would be twice a year.

Regulatory Alternative #21a

Extend medical surveillance to workers in construction and shipyard industries if they meet requirements of proposed standard (above PEL or STEL for 30 days or more, etc.) All other provisions would not apply.

Regulatory Alternative #21b

Extend medical surveillance to workers in construction and shipyard industries if they meet requirements of current standard consisting of above PEL ($2.0 \mu\text{g}/\text{m}^3$) for 30 days or more, etc. All other provisions would not apply.

(k) Medical Removal

The proposed standard determines eligibility if an employee works in a job that is at or above the action level **AND** is diagnosed with CBD or a positive confirmation.

Regulatory Alternative #22

This alternative would remove the requirement for a medical removal program.

(l) Communication of Hazards

The proposed standard requires compliance with HCS (29 CFR 1910.1200). Cancer, lung effects, sensitization, and irritation to the eyes, skin and respiratory tract must be addressed.

(m) Recordkeeping

The proposed standard sets for requirements for recordkeeping of exposure measurements, historical exposure data, and objective exposure data. It contains requirements for employee records for the medical surveillance program and training program.

(n) Dates

The effective date would be 60 days after publication of the final rule in the Federal Register. It would be enforceable 90 days after the effective date of the final rule. Change rooms are required no later than 1 year and engineering controls no later than 2 years after the effective date.

The complete OSHA proposed standard for Occupational Exposure to Beryllium and Beryllium Compounds can be found on the Federal Register at the link below.

<https://www.federalregister.gov/articles/2015/08/07/2015-17596/occupational-exposure-to-beryllium-and-beryllium-compounds>

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