

under "Respirator type" in Table 1 of 29 CFR 1910.1028 (Benzene Standard); line 1 under "Minimum required respirator" in Table 1 of 29 CFR 1910.1047 (Ethylene Oxide Standard); lines 1–4 under "Minimum respirator required" in Table 1 of 29 CFR 1910.1048 (Formaldehyde Standard); and lines 1–3 and 8, and footnote 2, under "Respirator type" in Table 1 of 29 CFR 1910.1050 and 1926.60 (Methylenedianiline (MDA) Standards).

These paragraphs identify the types of cartridges and canisters employers must select under specific respirator-use conditions. The Inorganic Arsenic Standard requires employers to provide employees with: Air-purifying respirators that have a combination high-efficiency particulate air (HEPA) filter with an appropriate gas-sorbent cartridge or canister when their exposure exceeds the permissible exposure level for inorganic arsenic, and their exposure also exceeds the relevant limit for other gases; front- or back-mounted gas masks equipped with HEPA filters and acid-gas canisters or any full facepiece supplied-air respirators when the inorganic arsenic concentration is at or below 500 µg/m³; and half-mask air-purifying respirators equipped with HEPA filters and acid-gas cartridges when the inorganic arsenic concentration is at or below 100 µg/m³. The Benzene Standard specifies that employers must use an organic-vapor cartridge or canister with air-purifying respirators, and a chin-style canister with full facepiece gas masks. The Ethylene Oxide Standard states that employers are to equip air-purifying, full facepiece respirators with front- or back-mounted canisters approved for protection against ethylene oxide, while the same respirators under the Formaldehyde Standard must use a cartridge or canister approved for protection against formaldehyde. The MDA Standard requires that employers provide air-purifying respirators with a combination HEPA filter and organic-vapor cartridge or canister when MDA is in liquid form or is part of a heated process.

- Line 1 under "Required respirator" in Table 1 of 29 CFR 1910.1001, 1915.1001, and 1926.1101 (Asbestos Standards); line 6 under "Required respirator" in Table I of 29 CFR 1910.1029 (Coke Oven Emissions Standard); and line 2 under "Required respirator" in Table I of 29 CFR 1910.1043 (Cotton Dust Standard).

These provisions prohibit the use of disposable respirators (single-use respirators in the Coke Oven Emissions Standard) to protect employees against these toxic substances; the Cotton Dust

Standard prohibits their use at exposures greater than five times the permissible exposure level (PEL). However, the Agency does not define the terms "disposable respirator" or "single-use respirator" in any of its standards, including its Respiratory Protection Standard at 29 CFR 1910.134; therefore, to update these requirements, the Agency is proposing to replace these terms with "filtering facepiece," which it defines in paragraph (b) of 29 CFR 1910.134. OSHA believes this revision will not only make these provisions consistent with its new Respiratory Protection Standard, but will prevent employers from using respirators not designed with the high-efficiency particulate filters necessary to capture respirable asbestos fibers (*see* 51 FR 22718) and coke oven emissions (*see* 41 FR 46773–46774), and, in the case of cotton dust, to provide protection at exposure levels higher than five times the PEL (*see* 50 FR 51153–51154).

- Paragraphs (h)(2)(iv) of 29 CFR 1915.1001 and (h)(3)(iii) of 29 CFR 1926.1101 (Asbestos Standards) also prohibit employers from selecting disposable respirators for employees who conduct specific types of Class II and III asbestos work. Consistent with the explanation and rationale provided in the previous section, OSHA is proposing to revise the term "disposable respirator" to "filtering facepiece" in these standards. The Agency also is proposing to revise these paragraphs, as well as paragraph (h)(2)(v) of 29 CFR 1915.1001 and (h)(3)(iv) of 29 CFR 1926.1101 (which address respirator selection for conducting Class I asbestos work in regulated areas), into plain language to clarify the multifaceted requirements specified by these paragraphs. By improving employer understanding of the respirator-selection requirements, OSHA believes that the revisions proposed for these paragraphs would enhance employee protection without increasing employers' regulatory burden.

- Lines 2, 3, and 4 under "Required respirator" in Table 1 of 29 CFR 1910.1001, 1915.1001, and 1926.1101 (Asbestos Standards); lines 5–6, 8, and 11 under "Required respirator" in Table I, and lines 6 and 10 under "Required respirator" in Table II, of 29 CFR 1910.1018 (Inorganic Arsenic Standard); lines 1, 2, and 3 under "Required respirator" in Table II of 29 CFR 1910.1025 (Lead Standard); lines 1, 3, 5, 6, and 10 under "Required respirator type" in Table 2 of 29 CFR 1910.1027 (Cadmium Standard); lines 1, 3, 4, and 5 under "Required respirator" in Table I of 29 CFR 1910.1043 (Cotton Dust Standard); lines 1, 2, 3, and 8

under "Respirator type" in Table 1 of 29 CFR 1910.1050 and 1926.60 (Methylenedianiline Standard); lines 1, 3–4, 7, and 8 under "Required respirator" in Table 1 of 29 CFR 1926.62 (Lead Standard); and lines 1, 3, 6, 8, and 11 under "Required respirator type" in Table 1 of 29 CFR 1926.1127 (Cadmium Standard).

Under these provisions, employers must equip air-purifying (including powered air-purifying) respirators with high-efficiency particulate air (HEPA) filters, high-efficiency and high-efficiency particulate filters (defined as a filter that is at least 99.97% efficient against mono-dispersed particles of 0.3 micrometers in diameter or larger), and particulate filters (for the Cotton Dust Standard only). While OSHA is proposing to retain these provisions, it is also proposing to replace the terms "high-efficiency filters" and "high-efficiency particulate filters" with the term "HEPA filters." These three terms have the same meaning, so use of the term "HEPA" would impose no additional burden on employers, nor would it diminish employee protection. The Agency believes that the usual and customary practice among employers in the cotton-dust industry is to use HEPA filters with air-purifying respirators; therefore, employers should experience no additional burden, and employee protection should remain at current levels, as a result of this revision. In addition, the proposed revision would make the filter requirements of the Cotton Dust Standard consistent with other OSHA substance-specific standards and with its Respiratory Protection Standard, thereby reducing any confusion that may exist among the regulated community regarding the appropriate filter to use with air-purifying respirators.

- Footnote 2 to Table II of 29 CFR 1910.1018 (Inorganic Arsenic Standard). This provision prohibits the use of half-mask respirators for protection against arsenic trichloride because it is rapidly absorbed through the skin. OSHA is retaining this provision to protect employees from the cumulative toxic effects that result from skin absorption.

- Footnote 2 to Table II of 29 CFR 1910.1025, and footnote 2 to Table 1 of 29 CFR 1926.62 (Lead Standard). These footnotes specify that employers must provide employees with full facepiece respirators when employees experience eye or skin irritation that results from exposure to lead aerosols at use concentrations. These provisions prevent serious eye and skin injuries among employees.

- Footnote b to Table 2 of 29 CFR 1910.1027 and footnote b to Table 1 of