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Fact Sheet

Hexavalent chromium final standard: *effective and practical protection for workers*

Summary

On Feb. 28, 2006, the U.S. Department of Labor issued a final standard addressing occupational exposure to hexavalent chromium, also known as Cr(VI), a natural metal ion used in a wide variety of industrial activities, including stainless steel manufacture, welding, painting and pigment application, electroplating and other surface coating processes. The standard does not cover the application of pesticides, such as the treatment of wood with preservatives. (Note: The inorganic arsenic standard, 1910.1018, has a similar exemption covering pesticide application and the treatment and use of arsenic-preserved wood.)

The federal Occupational Safety and Health Administration (OSHA) determined the new standard is necessary to reduce significant health risks posed by occupational exposure to Cr(VI). The new standard is based on a careful, extensive analysis of all facts and evidence gathered during the OSHA rulemaking process, which included two weeks of public hearings and comment periods totaling more than five months. OSHA relied on the best available, peer-reviewed science. Minnesota OSHA (MNOSHA) has adopted the federal standard in its entirety.

The standard covers the general industry, construction and shipyards sectors, and will protect workers against exposure to hexavalent chromium, while providing employers with adequate time to transition to the new requirements.

About the standard

Reduces worker exposure to Cr(VI) – The standard provides greater protection against significant health effects, such as lung cancer, nasal septum ulcerations and perforations, and dermatitis by lowering the permissible exposure limit (PEL) from a ceiling limit of 52 micrograms of Cr(VI) per cubic meter of air (52 µg/m³) to an eight-hour time weighted average of 5 µg/m³ for general industry, construction and shipyards.

Practical and effective requirements – The standard requires covered industries to achieve the PEL through engineering and work practice controls to the extent that is technologically feasible. Additional provisions cover exposure determinations, respiratory protection, protective work clothing and equipment, medical surveillance and communication of hazards.

Adoption date – The standard was adopted in Minnesota on June 5, 2006. All provisions, except engineering controls, are required beginning Nov. 27, 2006, for employers with 20 or more employees and May 30, 2007, for employers with fewer than 20 employees. All employers must implement engineering controls by May 31, 2010.

Portland cement exclusion – OSHA excluded exposures to portland cement in general industry, shipyards and construction because of data indicating that airborne exposures to Cr(VI) involving portland cement were very low and posed little lung cancer risk. Risks from dermal exposure could be addressed through existing OSHA standards.

Special provision for aerospace painting – The standard recognizes that, given the available technology, the lowest air concentration that employers involved in aerospace painting operations of whole aircraft or large aircraft parts can reach through feasible engineering and work practice controls is 25 µg/m³. For these types of aerospace painting, OSHA requires the use of engineering and work practice controls to reduce exposures to 25 µg/m³, and allows the supplemental use of respirators to be used to achieve the PEL.

Other exemptions – OSHA determined there are certain work operations that may have low airborne Cr(VI) exposure levels comparable to those generated by portland cement and has exempted employers that can demonstrate that under no expected conditions will concentrations be greater than 0.5 µg/m³.

Exposure determination – General industry, construction and shipyards all have identical provisions for exposure determination. The standard also adds a performance-oriented option in all industry sectors to increase employers' flexibility in making exposure determinations.

Medical surveillance – Medical surveillance must be offered to employees who have signs and symptoms of Cr(VI)-related health effects, are exposed to Cr(VI) in an emergency, or are exposed to Cr(VI) for 30 or more days above the action level (i.e., one-half of the PEL or 2.5 µg/m³). This requirement applies to general industry, construction and shipyards.

Communication of hazards – In addition to the requirements of the Employee Right-To-Know standard, employers must ensure each employee can demonstrate knowledge of the contents of the standard, and the purpose and description of the medical surveillance program. A copy of the standard must be readily available to all employees.

The general industry standard also requires specific housekeeping practices, including keeping surfaces clean as practicable, using HEPA vacuums or other methods that minimize the likelihood of exposure, using compressed air only when used with a ventilation system designed to capture the dust cloud or no other alternative exists, and disposing of any waste in sealed, labeled containers.

Copies of the final standards

All three standards are available on the federal OSHA Web site at the following locations:

- 1910.1026 (general industry) – www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=13096;

- 1915.1026 (maritime) – www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=13116;

- 1926.1126 (construction) – www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=13117.

For more information

Additional information can be found online at:

- federal OSHA – www.osha.gov/SLTC/hexavalentchromium; and

- National Institute for Occupational Safety and Health (NIOSH) – www.cdc.gov/niosh/topics/hexchrom.