

# HEXAVALENT CHROMIUM

INFORMATION AND RESOURCES ON THE DANGERS OF HEXAVALENT CHROMIUM

Occupational exposures occur mainly among workers who handle chromate-containing pigments, spray paints, or coatings; operate chrome plating baths; or weld or cut metals that contain chromium, such as stainless steel. The most likely cause for exposure is welding or cutting on items made of stainless steel.

Hexavalent chromium is a known carcinogen (cancer causing agent). Exposure may occur through breathing it in, ingesting it in food or water, or direct contact with the skin.

Potential health effects may include:

- lung cancer
- nasal and sinus cancers
- kidney and liver damage
- nasal and skin irritation and ulceration
- eye irritation and damage

OSHA Regulation: 29 CFR 1910.1026 – Chrome VI (Hexavalent Chrome) protects workers from exposure to this metal in general industry work.

Employers are required to determine the exposure of all affected employees. They must also monitor, provide appropriate engineering controls, work practices and personal protective equipment in addition to housekeeping procedures, training and recordkeeping.

## EXPOSURE LIMITS

The action level (AL), concentration at which the employer must begin taking actions to limit exposure is **2.5 micrograms per cubic meter of air** ( $\mu\text{g}/\text{M}^3$ ) as an eight-hour time weighted average (TWA). The permissible exposure limit (PEL) is **5  $\mu\text{g}/\text{M}^3$**  as an eight-hour time weighted average.

## EXEMPTIONS

- The regulation does **NOT** apply to:
- construction activities
  - pesticide application
  - exposure from Portland Cement
  - where employer has objective data showing employees will not be overexposed under any conditions of use.

# EMPLOYER REQUIREMENTS

- **Exposure Monitoring:** Where potential for exposure exists, employers are required to obtain objective data, have historical exposure monitoring results or must perform air monitoring to assess exposure. Exposure monitoring must be performed using sampling methods that provide a 95% confidence rating at the action level. Employee representatives must be offered the opportunity to observe the monitoring and employees must be given the monitoring results, within 15 days of their completion, as a letter or be posted in the workplace.
- **Exposure Controls:** Any portion of the workplace where the PEL is exceeded must be marked as a regulated area to prevent entrance by employees that do not know how to protect themselves from exposure. The employer must use the hierarchy of controls to reduce exposure as low as possible, then may use PPE to protect employees. Employee rotation is not allowed as an exposure control method. Wet wiping and high efficiency particulate air (HEPA) filtered vacuums are the preferred means to clean the work area from dust containing hexavalent chrome. Where PPE is used, changing areas and washing facilities must be provided to prevent contamination from leaving the work place. A separate area must be provided for employees to eat that is not contaminated with hexavalent chrome.
- **Medical Monitoring:** For employees that are exposed above the AL for more than 30 days/year the employer must establish a medical monitoring program. The program must be operated by a qualified licensed health care professional. Employees must receive a medical evaluation within 30 days of working in the area and annually afterward. They must also be given a medical exam any time they show symptoms of exposure or within 30 days of an uncontrolled release. The employee must be given a written report of the results of the examination within two weeks.
- **Hexavalent Chrome Hazard Communication Training:** The employer is required to include information on hexavalent chrome in their Hazard Communication Program and employees must be also trained to know the requirements of the regulation and the purpose and operation of the medical monitoring program. The employer must also make a copy of the regulation available at no cost to employees.
- **Recordkeeping:** The employer must maintain the records developed under this regulation including the current or historical air monitoring documentation, any objective data used to estimate exposure and the information developed for and as a result of the medical monitoring. The exposure monitoring data must be maintained for 30 years and the medical monitoring data for the duration of employment plus 30 years.

**For more information and resources visit:**

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