



SAFETY INCENTIVE PROGRAM
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SIP TIP: WHAT IS HEXAVALENT CHROMIUM OR Cr (VI)?

Background Information

Some major users of Cr (VI) are the metallurgical, refractory, and chemical industries.

Cr (VI) is used by the metallurgical industry to produce stainless steel, alloy steel, and nonferrous alloys.

Welders use stainless steel welding rods when joining metal parts.



Health Effects

Cr (VI) is considered a potential lung carcinogen.

Direct eye contact with chromic acid or chromate dusts can cause permanent eye damage.

Cr (VI) can irritate the nose, throat, and lungs. Repeated or prolonged exposure can damage the mucous membranes of the nasal passages and result in ulcers. In severe cases, exposure causes perforation of the septum (the wall separating the nasal passages).

Prolonged skin contact can result in dermatitis and skin ulcers.

How employees can be exposed to hexavalent chromium

Employees can inhale airborne Cr (VI) as a dust, fume or mist while:

- Producing chromate pigments and powders; chromic acid; chromium catalysts, dyes, and coatings;
- Working near chrome electroplating ;
- Welding and hotworking stainless steel, high chrome alloys, chrome-coated metal, and some carbon steel operations; and
- Applying and removing chromate-containing paints and other surface coatings.



Steps OSHA has taken to protect employees from health hazards caused by Cr (VI)

The new OSHA workplace standard requires employers to:

- Limit 8-hour time-weighted average Cr (VI) exposure in the workplace to 5 $\mu\text{g}/\text{m}^3$.
- Perform periodic monitoring at least every 6 months if initial monitoring shows employee exposure at or above the action level (2.5 $\mu\text{g}/\text{m}^3$).
- Provide appropriate personal protective clothing and equipment when there is likely to be a hazard present from skin or eye contact.
- Implement good personal hygiene and housekeeping practices to prevent Cr (VI) exposure.
- Provide respiratory protection as specified in the standard.
- Make available medical examinations to employees within 30 days of initial assignment, annually, to those who experience signs or symptoms of adverse health effects, to those who are or may be exposed at or above the action level for 30 or more days a year, and at termination of employment.

THIS STANDARD GOES INTO EFFECT STARTING NOVEMBER 27, 2006 FOR MOST EMPLOYERS.

REMINDER: WELDING FUMES ARE NOT JUST SMOKE!