Hexavalent Chromium Fact Sheet

What is hexavalent chromium?

Hexavalent chromium (Cr(VI)) compounds are a group of chemical substances that contain the metallic element chromium in its positive-6 valence (hexavalent) state. Hexavalent chromium compounds are man-made and widely used in many different industries.

How are employees exposed to hexavalent chromium?

Employees can inhale airborne hexavalent chromium 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 hot working stainless steel, high chrome alloys and chrome-coated metal
- applying and removing chromate-containing paints and other surface coatings.

How does hexavalent chromium exposure affect me?

An increased risk of lung cancer has been demonstrated in workers exposed to Cr(VI) compounds. Other adverse health effects associated with Cr(VI) exposure include dermal irritation, skin ulceration, allergic contact dermatitis, occupational asthma, nasal irritation and ulceration, perforated nasal septa, rhinitis, nosebleed, respiratory irritation, nasal cancer, sinus cancer, eye irritation and damage, perforated eardrums, kidney damage, liver damage, pulmonary congestion and edema, epigastric pain, and erosion and discoloration of the teeth.

Are there NCDOL standards for hexavalent chromium?

Yes, the following are standards NCDOL has adopted for hexavalent chromium:

- **29 CFR 1910.1026** – for general industry
- **29 CFR 1915**. **1026** – for shipyards
- **29 CFR 1926.1126** – for construction industry

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The major elements of the hexavalent chromium standards are:

- An action level of 2.5 micrograms of hexavalent chromium per cubic meter of air, as averaged over an 8-hour period.
- A permissible exposure limit (PEL) of 5 micrograms of hexavalent chromium per cubic meter of air, as averaged over an 8-hour period.
- Employers must use engineering controls and work practices, where feasible, to reduce worker exposure below the PEL.
- Employees be provided with protective clothing and, where necessary, with respiratory protection accordance with 29 CFR 1910.134.
- Under certain circumstances employees exposed to hexavalent chromium must be enrolled in a medical surveillance program.
- Employers must train employees about the standard and how hexavalent chromium affects the body.

Where can I find additional information?

Please review our **Hexavalent Chromium Subject Index** page.