

# Technical Data Bulletin

# OHS&ESD

#172

## Occupational Safety and Health Administration (OSHA) Proposed Standard on Hexavalent Chromium

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OSHA proposed a substance-specific regulation for hexavalent chromium (CrVI) on October 4, 2004 and projects publishing the final standard in January, 2006. The final standard is not yet published and is not in effect. Employers are not required to act on the proposed regulation. Any actions that may be required by the standard when it is published will most likely depend on airborne CrVI concentrations. Companies may choose to be proactive and monitor for CrVI levels at the new proposed permissible approval limit of  $1\mu\text{g}/\text{m}^3$ .

This brief summary of the proposed standard was prepared by 3M Occupational Health and Environmental Safety Division. It does not represent an official, legal nor complete interpretation of the proposed regulation. If specific questions arise, the proposed regulation should be reviewed and relied on, rather than this summary. A copy of the proposed regulation can be viewed at <http://www.osha.gov> and search on "Unified Agenda Chromium" then select "1940 Occupational Exposure to Hexavalent Chromium."

### Review of the Proposed Standard

#### Exposure Limit

The current OSHA Permissible Exposure Limit (PEL) for CrVI is  $52\mu\text{g}/\text{m}^3$ . OSHA is proposing a lower limit of  $1\mu\text{g}/\text{m}^3$  due to a preliminary determination that the current exposure limit presents a significant risk to workers.

#### Operations With Potential Exposures To CrVI

Approximately 380,000 workers in over 30 major industries are exposed to CrVI. Occupational exposures can occur from inhaling airborne dusts, mists, fumes or through direct contact with the skin. Industries that may be affected include:

- Inorganic pigment handling
- Inorganic pigment manufacturing
- Chrome plating
- Stainless steel welding

#### Monitoring

The proposed standard will apply to occupational exposures to CrVI including any class of chromium with a valence of positive 6, regardless of form or compound.

Some examples of materials that will apply:

- chromium oxide ( $\text{Cr}_2\text{O}_3$ )
- ammonium dichromate ( $(\text{NH}_4)_2\text{Cr}_2\text{O}_7$ )
- calcium chromate ( $\text{CaCrO}_4$ )
- chromium trioxide ( $\text{CrO}_3$ )
- lead chromate ( $\text{PbCrO}_4$ )
- potassium chromate ( $\text{K}_2\text{CrO}_4$ )
- potassium dichromate ( $\text{K}_2\text{Cr}_2\text{O}_7$ )
- sodium chromate ( $\text{Na}_2\text{CrO}_4$ )
- strontium chromate ( $\text{SrCrO}_4$ )
- zinc chromate ( $\text{ZnCrO}_4$ )

Initial monitoring for CrVI will likely be required. As mentioned, companies may choose to be proactive and monitor for CrVI in their current operations.

The proposed standard states that objective data that demonstrate the PEL will not be exceeded may be used in place of monitoring data. Performing a valid exposure assessment is the employer's responsibility. Employers should be very careful about conclusions based on objective data rather than personal exposure monitoring.

**NOTE:** 3M does not provide the required equipment to measure CrVI.

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#### Respiratory Protection

The proposed standard requires respirators as an interim exposure control while feasible engineering and work practice controls are being implemented, and in several other limited situations. When respirators are necessary, they must be selected, used and maintained in accordance with 24 CFR 1910.134. Additionally, the current proposal has not specified the National Institute for Occupational Safety and Health (NIOSH) filtration class (e.g., N95, N100, etc).

For questions regarding respiratory protection selection that meets the current requirements for CrVI or general questions about the proposed standard, please contact 3M Technical Service on [3M.com/occsafety](http://3M.com/occsafety), 1-800-243-4630 or your local 3M Sales Representative at 1-800-896-4223.

#### Future Actions

The current Hexavalent Chromium Document is a proposed standard only. When the final standard is published 3M will issue a Regulations Update, which will specify respiratory protection that is consistent with OSHA requirements. For additional information, access the Proposed Standard at <http://www.osha.gov> and search on "Chromium."



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