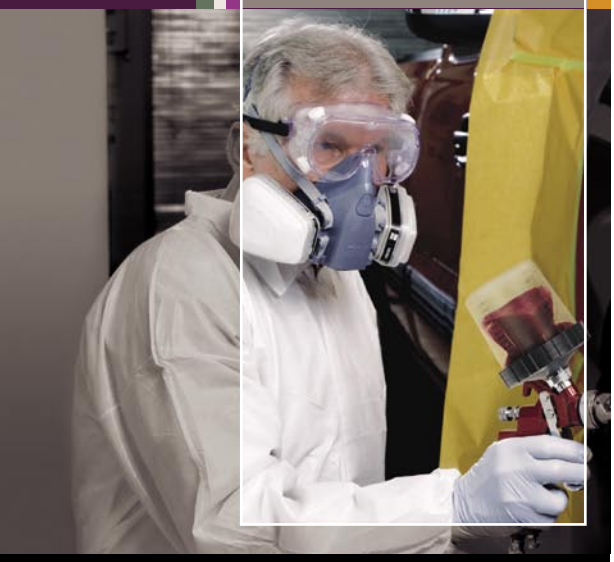
Highlights of the New Hexavalent Chromium Standard

Cr(VI)

Welding...Painting...Plating

Are your workers exposed to Hexavalent Chromium?



This brief summary of the new standard was prepared by 3M Occupational Health and Environmental Safety Division. It does not represent an official, legal nor complete interpretation of the regulation. If specific questions arise, the proposed regulation should be reviewed and relied on, rather than this summary. A copy of the final regulation can be viewed at http://www.osha.gov/.

On February 28, 2006 the Occupational Safety and Health Administration (OSHA) published the final Hexavalent Chromium (CrVI) Standard. There are three versions of the standard: General Industry (1910.1026), Construction (1910.1126) and Shipyards (1515.1026). The requirements of each standard are very similar.

Permissible Exposure Limit

CrVI exposure from any source is covered except exposures from Portland Cement and *application* of regulated pesticides, e.g. treatment of wood with pesticides (exposures resulting from sawing or sanding treated wood are covered).

The permissible exposure limit (PEL) for all industries is 5µg/m^3. The action level, or the level where requirements of the standard such as medical surveillance may be required, is 2.5µg/m^3. There is no short term exposure limit (STEL).

Start Up Dates

The PEL, respiratory protection and engineering controls take effect on the following dates:

- Employers with more than 20 employees — November 27, 2006
- Employers with less than 20 employees — May 30, 2007
- Feasible engineering controls must be in place — May 31, 2010

Respiratory Protection

Respiratory protection requirements are the same in all three standards. Respirators are required in the following situations whenever exposure levels exceed the PEL:

- While engineering and work practice controls are being developed
- During maintenance and repair activities for which engineering and work practice controls are not feasible
- When all feasible engineering and work practice controls are implemented
- When employees are exposed above the PEL for fewer than 30 days per year and the employer has not elected to implement engineering and work practice controls
- Emergencies

Unlike other substance specific standards there is no respirator selection table. The standard refers to 1910.134 for respirator selection and all other respiratory program requirements.

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Highlights of the New Hexavalent Chromium Standard *(continued)*

Consistent with current respirator selection, 3M recommends the following:

- N95 filters may be used where no oil aerosols are present
- R or P95 filters may be used where oil aerosols are present (refer to packaging for time use limitations)
- Filtering facepiece respirators and half facepiece respirators with appropriate filters may be used to 10 X PEL of 5µg/m^3 when qualitatively or quantitatively fit tested
- Full facepiece respirators with appropriate filters may be used to 10 X PEL of 5µg/m3 when qualitatively fit test and may be used to 50 X PEL of 5µg/m3 when quantitatively fit tested
- Loose fitting facepieces may be used to 25 X PEL
- Tight fitting full facepieces, hoods and helmets with supplied air or powered air purifying respirators may be used to 1000 X PEL

See **3M.com/OccSafety** for product information and part numbers.

Exposure Assessments

To select the proper respirator, the employer must make an exposure determination. The standard permits this to be done in one of two ways:

1) The "scheduled monitoring option" requires air sampling to make an initial characterization of worker exposures. Depending on the exposures found, sampling may need to be repeated every three months or every six months. Monitoring methods for hexavalent chromium include NIOSH Methods 7604 (by ion chromatography) and 7600 (by visible absorption spectrophotometry) or OSHA Method ID-215 (noted in the hexavalent chromium standard). Air sampling performed to comply with either option must have and accuracy of ± 25% at the 95% confidence interval. Consult an American Industrial Hygiene Association (AIHA) accredited laboratory for assistance on selection of the appropriate sampling and analytical method.
2) Alternatively, OSHA allows the "performance-oriented option" where exposures can be estimated using any combination of air sampling, historical monitoring data or objective data. Objective data means information such as air monitoring data from industry-wide surveys or calculations based on the composition or chemical and physical properties of a substance demonstrating the employee exposure to CrVI associated with a particular product or material or a specific process, operation or activity. The data must reflect workplace conditions closely resembling the processes, types of material, control methods, work practices and environmental conditions in the employer's current operations.

To contact an AIHA accredited laboratory or an Industrial Hygienist for assistance with either of these exposure determination options, go to **www.aiha.org** and select **Consultants** or **Laboratories**.

For a complete copy of the standard please refer to OSHA's website **www.osha.gov**.

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