

OSHA Hexavalent Chromium PEL

HCAT/JCAT Meeting

New Orleans, LA

January 23-25, 2007

Jeffery S. Hannapel
The Policy Group
1155 15th Street, N.W., Suite 500
Washington, DC 20005
202-457-0630
jhannapel@thepolicygroup.com

OSHA Final Rule for Hex Chromium: Key Provisions

- Successfully raised proposed PEL of 1.0 to 5.0 ug/m³
- Action Level of 2.5 ug/m³
- Exemption for operations under 0.5 ug/m³
- Exemption for exposures of less than 30 calendar days a year
- Secured 4 years to implement engineering controls
- Respirators needed until engineering controls are implemented, if employees exposed at levels greater than 5 ug/m³
- SECAL for aerospace chromate painting operations
- 71 Fed. Reg. 10100 (February 28, 2006)

Compliance Deadlines

- Facilities With 20 or More Employees – November 27, 2006
- Facilities With Fewer Than 20 Employees – May 30, 2007
 - ◆ Exposure Monitoring
 - ◆ Medical Surveillance
 - ◆ Personal Protective Equipment
 - ◆ Housekeeping
 - ◆ Hygiene Practices & Change Rooms
 - ◆ Training & Hazard Communication
 - ◆ Recordkeeping
- Engineering Controls – May 31, 2010

Impacts on Surface Finishing Operations

- Hard Chrome Plating
 - Decorative Chrome Plating
 - Chromic Acid Anodizing
 - Chromate Conversion Coatings (e.g., Zn, Cd & Al)
 - Plating on Plastics
 - Passivation
 - Maintenance & Welding
 - Chemical Mixing & Blending
 - Chromate Painting Operations
-
- OSHA also identified nickel risks in final rulemaking as factor in elevated workplace cancer risks in combination with chromium
-
- EXPOSURE DATA IS ESSENTIAL – TEST NOW!

OSHA's Rationale: Factors the Agency Must Legally Consider in Setting a PEL

<u><i>Factors</i></u>	<u><i>OSHA's Conclusion</i></u>
Health Risk	Still "significant risk" at PEL of 5 ug/m ³
Technical Feasibility	Most facilities can meet PEL of 5 ug/m ³
Economic Feasibility	Not feasible for finishing industry at PEL of 1 ug/m ³ , but PEL of 5 ug/m ³ OK

What is a “Significant Risk”?

Selected OSHA Risk Estimates

Standard	Cancer Risk (per 1000)	Final Rulemaking Date
Asbestos	6.7	June 1986
<i>Benzene</i>	<i>10</i>	<i>September 1987</i>
Formaldehyde	.0056 – 2.64	December 1987
<i>Cadmium</i>	<i>3 – 15</i>	<i>September 1992</i>
1,3-Butadiene	1.3 – 8.1	November 1996
Methylene Chloride	3.6	January 1997
<i>Chromium VI</i>	<i>10 – 45</i>	<i>February 2006</i>

Technological Feasibility: Selected OSHA Arguments

Improved Maintenance

“Some firms may not need to upgrade their local exhaust systems, but must ensure that their current exhaust systems are working according to design specification.”

Remedy Operating Deficiencies

“...none of the [hard chrome] systems inspected...were operating at the designed capabilities. Many had disconnected supply lines or holes in the hoods and were working at 40 percent of their design capabilities.”

Even Deficient Systems are Below 5.0 PEL

“Even with these deficiencies in engineering controls, over 75 % of [hard chrome] workers are below 5 ug/m³.”

Technological Feasibility: Aerospace Industry

- At aerospace facilities using the best engineering controls identified by OSHA, 84% of data points exceeded the proposed PEL
- Aerospace workers protected through the use of respirators

Economic Feasibility: OSHA's Arguments Supporting PEL of 5.0 ug/m³

- OSHA's estimated compliance cost at PEL of 1.0 ug/m³, for average facility:

- ◆ 2.7 % of firm revenue vs. OSHA "benchmark" of 2 %
- ◆ 65 % of firm profits vs. OSHA "benchmark" of 10 %

- OSHA conclusion:

A PEL of 1.0 ug/m³ is not economically feasible, because it would "adversely alter the competitive structure of the electroplating industry."

Model Electroplating Facility at PEL of 1 ug/m³:

Our Estimated Compliance Cost

(20 employees, \$1.6 mil revenues)

Selected Requirements	Model Cost (in thousands)
Engineering Controls	64,070
Exposure Monitoring	20,983
Personal Protective Equipment	10,511
Hygiene Areas and Practices	23,488
Housekeeping	2,981
Respirator Protection	79,957
Training & Information	2,112
<i>TOTAL COST – Model Facility</i>	<i>\$ 226,777</i>
<i>TOTAL COST – OSHA Facility Estimate</i>	<i>\$ 14,058</i>

Legal Challenges to OSHA Rule

■ Litigation

- ◆ Industry Challenged OSHA's PEL of 5 ug/m³
- ◆ Public Citizen and Labor Unions Challenged OSHA's PEL of 5 ug/m³
- ◆ Industry Intervened to Defend OSHA's PEL of 5 ug/m³
- ◆ Legal Briefs Due February 2007
- ◆ Oral Argument – Summer 2007

Summary of Settlement Agreement Of NASF, OSHA and Public Citizen

- Conduct Exposure Monitoring for Facility
- December 31, 2008 to Implement Engineering Controls & Work Practices
- Relief from Respiratory Protection Requirements During Implementation Period If Exposures Are Over 5 ug/m³
- Thresholds for Respirator Relief
- Continued Use of Respirators for Discrete Activities
- Compliance Plans for Reducing Exposures
- Available to NASF Members
- “Opt-In” Option Until November 30, 2006
- Interpretation Letter with Regulatory Clarifications
- NASF Withdraws from Litigation as Petitioner & Intervenor

Engineering Controls & Work Practices

- Install, Upgrade and Maintain LEV Systems
- Facility Air Flow Evaluation
- Parts Transfer and Rinsing Practices
- Fume Suppression and Surface Tension Management
- Chemical Bath Circulation Technology (e.g., Eductors)
- Liquid Chemical Additions in Lieu of Dry
- Housekeeping Practices

Regulatory Clarifications

- Reliance on Historical Exposure Monitoring Data
- Definition of Regulated Area
- Use of Personal Protective Equipment
- Need for Change Rooms
- Employee Rotation Practices
- Housekeeping (Vacuum or Wet Mopping)

Rationale for Settlement

- Use of Respirators Is Burdensome, Expensive and Not Protective
- Difficult to Get PEL Higher Than 5 ug/m³
- Financial Considerations
- Most Facilities Can Reduce Workplace Exposures Below 5 ug/m³
- Revisions to PEL Mandated By Court Can Be Addressed in Rulemaking

OSHA Litigation Continues in Third Circuit

- If the Third Circuit rules against OSHA and remands Chrome PEL rule
 - ◆ Court will not identify number for new PEL
 - ◆ OSHA would have to re-propose rule, subject to notice and comment
 - ◆ Industry would participate in new rulemaking process (e.g., comments, hearings, meetings, etc.)
 - ◆ Industry's economic and technological feasibility arguments opposing a PEL lower than 5 ug/m³ would be used again