Impact of the Hex Chrome Standard on Industrial Base Operations

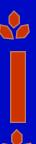
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EXPANDED OSHA STD

- ✓ 5 ug/M3
- ✓ Exposure determination
- ✓ Regulated areas
- ✓ Methods of compliance
- Engineering and work practice controls
- Respiratory Protection Prog
- ✓ Protective Clothing & Equip
- ✓ Hygiene Areas/Practices
 - ✓ Change Rooms
 - ✓ Washing Facilities
 - ✓ Eating Areas

- > Housekeeping
- Medical surveillance
- Hazard Training
- > Recordkeeping
 - IH (Air Monitoring)
 - Med. Surveillance
- Dates
 - ≻ Nov 2006
 - Effective Date
 - ➤ May 31, 2010
 - Engineering Controls



Initial Issues

Scope: Cr +6 Exposures EXCEPT: > Pesticides (EPA) or Portland Cement < .5 ug/M3 TWA</p> Exposure Determination (TWA's) Scheduled Monitoring Plan > TWA each employee, job series, shift, and work area Performance Option > TWA Using Air Monitoring, Historical or Objective Data $> < AL \rightarrow STOP$ > AL \rightarrow Every 6 Months > PEL \rightarrow Every 3 MONTHS New Operations or Changes Industrial Hygiene: Pivotal to OSHA Compliance

Potentially Affected Operations

Welding & Thermal Cutting

 Stainless or Mild Steel

- Metal Spraying Operations
- Abrasive Blasting
- Plating Operations
- Spray Painting
- Grinding or Sanding
- Maintenance & Modifications
- Pyrotechnics
- Demolition
- Construction
- Others

<u>Welding Examples on Combat</u> <u>Tanks</u>

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$\frac{\text{Operation}}{(A N A D)}$	Total Cr	<u>Cr+6</u>	<u>% Cr+6</u>	<u>Material</u>
(ANAD)	ug/M3	ug/M3		
Carbon Arc Cutting	300 to 1720	30 to 170	10%	Stainless Welds
Shielded Metal Arc Welding	40 to 550	20 to 270	50%	Stainless Rods
Wire, Core Flux Welding	160 to 3550	80 to 1780	50%	Stainless Constant Feed



	PRIV		SECTOR		♥ UDY
●	Alloy	% Cr	Shielded Arc Weld	Flux Core Wire Weld	Tungsten Arc Weld
	High Cr/Ni	17 to 40	Old: 15%>PEL 15%>AL New: 40%>PEL 23%>AL	Old: 0%> PEL New: 33%> PEL 11%> AL	Old & New 0%>AL
	Med. Cr/Mo	9	Old: 0%>PEL New: 17%>PEL 17%>AL	N/A	N/A
	Low Cr/Mo	1 to < 3	Old & New 0%>AL	N/A	Old & New 0%>AL
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Thermal Cl	utting/Welding	g on Chromate	-Painted Ste
	3	Projects	
Air carbon arc c	utting on boiler c	asing outdoors	
# air concentration samples	# 8hr TWAs	% Cr in paint range average	High Cr ^{VI} air concentration µg/m ³
10	6	0.07-0.8 0.54	0.67
12	12	0.015-0.024 0.06	0.22
Welding on coa	dumper spur ra	ils indoors	
# air concentration samples	# 8hr TWAs	% Cr in paint range average	High Cr ^{VI} air concentration µg/m ³
6	6	0.07-2.7 0.58	0.6

Impact?

- Installation Management of OSHA Compliance
 - If > PEL or > AL
 - Regulated Areas
 - Multidiscipline Effort & Command Emphasis
 - DODI 6055.1 & 29 CFR 1960 (OSHA Violations)
 - Planning, Tasks, Ownership, Timelines
 - Abatement Plans & Funding
- Affect on Operations and Processes
- Money, Labor, Time, Resources
- IH & OH Support
 - Monitor, Abatement Plans, Advise, Training
- Static or Dynamic Operations?
- Employee Relations: EDP @ 8%?

SUMMARY

- Any Operation If Chromium +6 > .5 ug/M3
- > Time, Money, Operations & Personnel
- Wide Array of Processes
- Compliance Difficult to Administer
 If > PEL
 - On-Going Effort to Manage
 - > Over 400 items for Cadmium compliance
 - Command Emphasis
 - DODI 6055.1 & 29CFR 1960
 - Tracking & Abatement Plans
- > IH/OH Support
- Environmental Differential Pay Potential
 - Future Policy Need?