

Regulation 1138 (Formerly Reg. 38)

Emission Standards for Hazardous Air Pollutants for Source Categories

Section 6.0

Chromium Electroplating And Anodizing Tanks

July 26, 2007

Public Workshop

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Workshop Agenda

- Workshop amenities
- Purpose of the workshop
- Review of workshop handouts
- Hazards of hexavalent chromium
- Past regulatory activities
 - Federal
 - Overview of current requirements
 - Delaware
- Federal changes since Oct. 2000 considered under this action
- Other planned Delaware changes
- Additional comment/discussion opportunity

Purpose of the Workshop

- To review the hazards due to exposure to hexavalent chromium
- To discuss the planned changes to the existing regulatory requirements
- To encourage questions and comments by the public and regulated community on the planned changes

Review of Workshop Handouts

- Presentation materials
- Background information
 - Chromium +6 Health Summary
 - 4 - Federal Register Notices
 - Draft amendment (6/25/07)

www.awm.delaware.gov/Info/Regs/Subpart+N.htm

Hexavalent Chromium Hazards

Hexavalent Chromium Hazards

- Short-term inhalation (acute)
 - **Respiratory**
 - Gastrointestinal
 - Neurological
- Long-term inhalation (chronic)
 - **Cr+6 – Classed as known human carcinogen (lung cancer)**
 - Bronchitis
 - Pneumonia
 - Liver
 - Kidney
 - Possible complication during pregnancy and childbirth

**Past
Regulatory
Activities**

Past Federal Regulatory Activities

- Initial adoption of the chrome electroplating MACT standard
(60 FR4948, 1/25/1995)
- Corrections and clarifications of MACT
(60 FR33122, 6/27/1995)
- Initial Title V extension to 12/9/1999
(61 FR27785, 6/3/1996)
- California extension
(62 FR42918, 8/11/1997)
- Second Title V extension to 12/9/2004
(64 FR69637, 12/14/1999)

Overview of Current Requirements

- Pre-approved control technologies
 - Control devices (scrubbers, CMPs, mist eliminator, combos)
 - Fume Suppressants (Foam blanket, wetting agents, combos)
- Work practice standards including Startup, Shutdown & Malfunction Plan
- Compliance Testing Requirements
- Monitoring Requirements
- Compliance Testing Requirements
- Recordkeeping and Reporting Requirements
- Title V Permitting for all source; area sources temporarily exempted

Past Delaware Regulatory Activities

- Initial adoption of the federal MACT by Delaware (9/1/1999)
 - “Adoption by reference” with specific Delaware changes to federal requirements
 - Maintained the federal format and numbering system
- First amendment to Subpart N of Regulation 1138 (10/1/2000)
 - Extended the Title V permit exemption until 12/9/04

**Federal changes
Since Oct. 2000
Considered under
This action**

Federal Changes Since Oct. 2000

- **68 FR 37347, June 23, 2003**
 1. EPA initiated its transition in terminology from “work practice standards” to “operation and maintenance practices”
 - † 6 plus federal paragraphs were changed
 - Ex: 6.3.6 on page 5 of draft
 - † Numerous other Delaware paragraphs were changed
 - Ex: Note “c” on page 8 of draft

Federal Changes Since Oct. 2000

- **68 FR 37347, June 23, 2003**
 2. EPA added a new section 63.348 that identifies the authorities that EPA would retain when delegating the authority of Subpart N to state agencies
 - ⊗ Delaware not adopting

Federal Changes Since Oct. 2000

- **69 FR 42894, July 19, 2004**
 1. EPA recognized differences between “open surface” and “enclosed” hard chrome electroplating
 - † Modified and added definitions in 6.2.1 (p 2-3)
 - † Provided emission limitations for “open surface” in 6.3.3.1 (p 4)
 - † Provided emission limitations for “enclosed”, which included an alternative compliance calculation “MAMER” in 6.3.3.2 (p 4-5)
 - † Provided “MAMER” demonstration process for existing, small facilities in 6.5.6.2 (p 16)
 - † Provided “MAMER” demonstration process for all other facilities in 6.5.6.1 (p 15-16)

Federal Changes Since Oct. 2000

- **69 FR 42894, July 19, 2004**
 2. EPA recognized surface tension readings varied depending on type of instrument used
 - † Modified definitions of tensiometer and stalagmometer in 6.2.1 (p 3)
 - † Provided surface tension limits (45 vs. 35 dynes/cm) for decorative chrome process in 6.3.4.2 (p 5)
 - † Revises the default surface tensions based on instrument in lieu of conducting initial performance testing in 6.4.3.5.1 (p 10)
 - † Revises the surface tension limits that constitute non-compliance with the standard in 6.4.3.5.2 (p 10)

Federal Changes Since Oct. 2000

- **69 FR 42894, July 19, 2004**
- 3. EPA added fume suppressants w/ a wetting agent as a pre-approved control technology for hard chrome electroplating
 - † Provided surface tension limits of 45 and 35 dynes/cm for “open surface” in 6.3.3.1.3 (p 4)
 - † Provided surface tension limits of 45 and 35 dynes/cm for “enclosed” in 6.3.3.2.3 (p 4)
 - † Provided the default surface tensions based on instrument in lieu of conducting initial performance testing in 6.4.3.5.1 (p 10)
 - † Provided the surface tension limits that constitute non-compliance with the standard in 6.4.3.5.2 (p 10)

Federal Changes Since Oct. 2000

- **69 FR 42894, July 19, 2004**
 4. EPA included additional options to demonstrate compliance when a small hard chrome facility becomes reclassified as a large hard chrome facility in 6.3.3.3.2 (p 5)
 - † Fume suppressants w/ wetting agent for “open surface” tanks in 6.3.3.1.3 (p 4)
 - † Fume suppressants w/ wetting agent for “enclosed” tanks in 6.3.3.2.3 (p 4)
 - † Use of the alternative compliance “MAMER” calculation for “enclosed” tanks in 6.3.3.2 (p 4-5)

Federal Changes Since Oct. 2000

- **69 FR 42894, July 19, 2004**
- 5. EPA revised the pressure drop (ΔP) limit for composite mesh pad (CMP)
 - ⊖ Extended ΔP default limits for compliance from $\pm 1''$ to $\pm 2''$ in 6.4.3.1.1 & 2 (p 9)
 - ⊕ Clarified that compliance with the ΔP limit does not apply during automatic wash down cycle in 6.4.3.1.4 (p 9)
 - ⊕ Clarified that facility can retest to establish new site-specific ΔP range in 6.4.3.1.3 (p 9)
 - ⊕ Provided procedure to establish that new site-specific ΔP range in 6.4.3.1.3.1-4 (p 9)

Federal Changes Since Oct. 2000

- **69 FR 42894, July 19, 2004**
 6. Miscellaneous changes
 - † EPA clarified all emission limitations continue to apply during start up and shut down in 6.3.2.1 (p 4)
 - † EPA clarified that the operation and maintenance (O&M) plan needs to be revised if it fails to properly address a malfunction in 6.3.6.2.2.2 (p 6)

Federal Changes Since Oct. 2000

- **70 FR 75320, Dec. 19, 2005**
 1. EPA permanently exempted area sources subject to certain MACT standards (including Subpart N) from Title V permitting requirements
 - † These source will continue to require operating permits under Regulation 1102

Ref: 6.1.5 and Table 1

Federal Changes Since Oct. 2000

- **71 FR 20456, Apr. 20, 2006**
 1. EPA removed the requirement to implement the operation and maintenance (O&M) plan in 6.3.6.3.1 (p 6)
 - ⊗ Delaware not adopting
 2. EPA remove the O&M plan as the basis for determining if appropriate actions being taken during malfunctions in 6.3.6.1-2 (p 5-6)
 - ⊗ Delaware not adopting
- ⌄ On 6/13/07, Earthjustice, representing the Coalition for a Safe Environment, filed a lawsuit against EPA on the rule changes found in this federal rulemaking

**Other
Planned
Delaware
Changes**

Other Planned Delaware Changes

- **Delaware Administrative Code**
- Regulation numbers unique to Air Quality Management – 1100 series
 - Old Regulation 38; now 1138
 - Old Subpart N; now Section 6.0
- Numbering system below “Section” consistent throughout State
 - Old paragraph (a)(1)(i)(A);
now 1.1.1.1
- **Full regulatory text provided**

**Any Final
Comments
Or
Questions**

Attached Documents

- Current (6-25-07) draft of the proposed amendment
- Federal Registers of the 4 EPA rules considered in preparation of the proposed draft
- EPA's Health Effects Fact Sheet for chromium compounds
- All of the above and more can be found on DNREC's Air Quality Management web page

<http://www.awm.delaware.gov/Info/Regs/Subpart+N.htm>