

Air Quality Requirements for Plating and Polishing Facilities

In January 2008 the Environmental Protection Agency finalized a rule for controlling hazardous air pollutant emissions from area sources engaged in plating and polishing operations. This rule establishes emission standards in the form of generally available control technologies and management practices to reduce HAP emissions from this industry.

DEQ adopted the federal rule by reference in Dec. 2009.

Does this rule apply to my facility?

The requirements of the rule apply to all processes and units that contain or have the potential to emit one or more metal hazardous air pollutants. These pollutants are cadmium; chromium; lead; nickel or manganese.

Processes, units and tanks subject to rule:

1. Non-chromium electroplating; electroless or non-electrolytic plating; electroforming and electropolishing
Exemptions: Process units subject to 40 CFR part 63, subpart N (hard and decorative chromium electroplating) and chromium anodizing
2. Other non-electrolytic metal coating operations such as chromate conversion coating, nickel acetate sealing, sodium dichromate sealing and manganese phosphate coating
3. Thermal spraying operations
Exemptions: When used to “repair” surfaces
4. Dry mechanical polishing of finished metals or formed products after plating
Exemptions: When used to restore original finish to a surface before plating

Other exemptions from the rule

- Processes or units where toxic metal hazardous air pollutants are not used or emitted
- Processes or units used for research and development and not for the manufacture of products for commercial sale
- Processes or units used strictly for educational purposes

Requirements of the rule

Tanks: Non-Cyanide

Includes non-cyanide electroplating, electroforming and electropolishing tanks. These

tanks collectively are called “electrolytic” process tanks and are operated at a pH of less than 12.

You must use at least one of the following three emission control options for these tanks:

1. Use wetting agent/fume suppressants
 - Initially add in amounts recommended by manufacturer
 - To replenish, add in proportion to other bath ingredients (as original make-up)
2. Use a capture system to transport toxic metal HAP emissions to a control device
 - Composite mesh pad, packed bed scrubber or mesh pad mist eliminator or
3. Cover tank surface with impervious material during operation
 - Batch process: entire tank surface, at least 95 percent of process time
 - Continuous process: at least 75 percent of tank surface during process time
 - Short-term electroplating¹: at least 95 percent of tank surface during process time or
 - Limit plating time to no more than 3 minutes in an hour or 1 hour in a day
 - Record time tank is in use each day

Tanks: Cyanide electroplating (pH of 12 or more)

Measure and record tank pH upon start-up (one time only)

Non-Tank Equipment

Dry mechanical polishing

Operate capture system to transport hazardous metal dust to a control device (cartridge, fabric or high efficiency particulate (HEPA) air filter)

Thermal Spraying Process

Operate capture system:

Equipment start-up on or before 3/4/2008: cartridge, fabric or HEPA filter

Equipment start-up after 3/4/2008: fabric or HEPA filter only

Temporary process: Does not include spraying in a dedicated thermal spray booth

- Limit to one hour per day
- Spray in place or in a stationary location



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¹ If used for other than short term you may need to comply with requirements for other tanks

- Document length of time and location of spraying

Required management practices

Tanks

- Minimize bath agitation when removing parts from tanks except when meeting quality specs
- Maximize draining of solution back into tank
 - Withdraw parts slowly
 - Extend drip time when removing parts
 - Use drain boards
- Optimize barrel, rack, and parts design to minimize drag-out of bath solution
 - Slotted barrels
 - Tilted racks
 - Parts with flow-through holes
- If owned, use tank covers when possible
- Minimize/reduce heating of tanks except if production or quality is affected
- Perform regular repair, maintenance, and preventive maintenance of racks, barrels, and other equipment associated with tanks.
- Minimize bath contamination
 - Prevent or quickly recover dropped parts
 - Use distilled/de-ionized water
 - Use water filtration
 - Pre-clean and rinse parts before plating
- Maintain quality control of chemicals and other bath ingredient concentrations
- Practice good housekeeping sweeping, vacuuming, periodic wash-downs
- Minimize spills and overflow of tanks
- Use squeegee rolls in continuous plating tanks
- Perform regular inspections to identify leaks and other ways to prevent pollution

Non-Tank Equipment

- Operate capture/control devices according to manufacturer specs and operating instructions
 - Keep on-site and accessible at all times
- Implement best management practices per requirements for all equipment and processes

Reporting requirements

- Initial Notification – past due
- Notification of Compliance Status – past due
New sources: upon start-up
- Certification of Compliance Report
 - Prepare each year starting Jan. 31, 2011
 - Sign certifying ongoing compliance
 - Submit to DEQ “only” if deviations occur
- Deviation report
 - Submit Deviation Report along with Certification of Compliance Report by January 31 of any year in which deviations have occurred.

What records must I Keep?

The following records should be kept on-site for five years in a form suitable and readily available for review:

- Copies of all required notifications, reports, supporting documentation and records showing compliance with management and pollution prevention practices
- Records showing continued compliance with required management practices and equipment standards for every affected tank, process and capture and control device
- For cyanide tanks, the one-time pH measurement value
- For non-cyanide tanks, the amount and frequency of wetting agent/fume suppressant additions
- For short-term electroplating tanks, the daily plating time
- If applicable: amount of time tank is operated, times when tank cover is in place or the percentage of the tank surface covered

Permitting requirements

If subject to the federal rules, you must obtain one of the following permits and pay the following annual fee:

For shops without chronic or ongoing compliance issues: General ACDP (\$720/year)

For shops with chronic or ongoing compliance issues: Simple ACDP (\$1,920 - \$3,840/year)

Current and future permit applications will be assessed an initial application fee of \$1200, in addition to the annual permit fee, unless DEQ determines the initial application fee can be waived.

More information on permitting:

www.deq.state.or.us/aq/permit/acdp/acdp.htm

Additional Information

EPA’s brochure on national emission standards for hazardous air pollutants for plating and polishing facilities:

www.epa.gov/ttn/atw/area/platpolb.pdf

Alternative Formats

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To make these arrangements, contact DEQ Communications and Outreach in Portland at 503-229-5696 or call toll-free in Oregon at 800-452-4011; fax 503-229-6762; or email deqinfo@deq.state.or.us.

People with hearing impairments may call 711.