Working Group Meeting #6

Proposed Amended Rule (PAR) 1426 – Emissions from Metal Finishing Operations

South Coast AQMD

February 3, 2021

Zoom meeting link:
https://scaqmd.zoom.us/j/95085182150
Join via teleconference:
Dial-in Number: (669) 900-6833
Meeting ID: 950 8518 2150
Passcode: 570496

Agenda

- Summary of Recent Rulemaking Activity
- Revisions to Preliminary Draft Rule Language
- Additional Comments or Questions on Preliminary Draft Rule Language
- Next Steps

Summary of Recent Rulemaking Activity

- Working Group #5 – December 2, 2020
  - Proposed Amended Rule 1426 released on November 25, 2020
- Public Workshop – January 21, 2021
  - Preliminary Draft Rule Language and Preliminary Draft Staff Report for PAR 1426
  - Both released on January 15, 2021

Revisions to Preliminary Draft Rule Language

Revisions to PAR 1426

- Revised PAR 1426 based on input at Working Group Meeting, Public Workshop, and meeting with stakeholders
- Stakeholder comments:
  - Applicability was vague and potentially could include facilities that only have a rinse tank
  - Unclear of the requirements for facilities subject to Rule 1469
- Key Revisions to PAR 1426 include:
  - Applicability (b) and Definitions (c): Provide clarity on which tanks would be subject to the PAR 1426 and specific requirements, deleted definitions no longer used
  - Exemption (j): Added pathways to exempt tanks from PAR 1426 and/or specific requirements
  - Proposing that PAR 1426 requirements for Rule 1469 facilities would be incorporated into PAR 1469
- Following slides summarize the changes since the Preliminary Draft Rule Language was released

Purpose (a)

The purpose of this rule is to reduce fugitive emissions from Metal Finishing of hexavalent chromium, nickel, cadmium, or lead associated with operation of Process Tanks.

The purpose of this rule is to reduce fugitive emissions of hexavalent chromium, nickel, cadmium, and lead at a Metal Finishing facility.

- Revised "Purpose" to clarify that PAR 1426 will address fugitive emissions from a Metal Finishing facility
- Revised list of toxic air contaminants includes "hexavalent chromium, nickel, cadmium, ***and*** lead…"

Applicability Clarifications

- To address stakeholder comments that the Applicability is not well defined, applicability includes a specific list of tanks
- Applicability will be based on the facility operating one or more of the listed tanks within the definition of Metal Finishing

PAR 1426 Tanks

Any tank used to rinse, prepare, or treat the surface of a part

Listed Tanks in Definition of Metal Finishing

- ✓ Anodizing Tank
- ✓ Conversion Coating Tank
- ✓ Electroplating Tank
- ✓ Electroless-plating Tank
- ✓ Electroforming Tank
- ✓ Electropolishing Tank
- ✓ Etch Tank
- ✓ Passivation Tank
- ✓ Pre-Dip Tank
- ✓ Sealing Tank
- ✓ Stripping Tank

Applicability (b)

This rule applies to an owner or operator of Metal Finishing facility using a Process Tank with a solution containing hexavalent chromium, nickel, cadmium, or lead.

This rule applies to an owner or operator of a Metal Finishing facility using a Process Tank or Rinse Tank.

- Definition of “Metal Finishing” specifies applicable tank types
  - Provides specificity with no change in the applicability
  - Includes non-electrolytic metal tanks
- Definition of “Process Tank” lists applicable toxic air contaminants
  - Removes copper
- Revised definitions of Metal Finishing and Process Tank (next slides)

Definition of Container with a Fitted Lid

CONTAINER WITH A FITTED LID means a container with a lid that is manufactured and designed to securely close the container. A lid that is resting on top of a container is not a fitted lid.

CONTAINER WITH A FITTED LID means a container with a lid that is manufactured and designed to close the container.

Store chemicals that may contain a Metal in a closed Container with a Fitted Lid in an Enclosed Storage Area when not in use.

Store chemicals that may contain a Metal in a securely closed Container with a Fitted Lid in an Enclosed Storage Area when not in use.

- Definition has been updated to provide more clarity
- Requirement to securely close the container will be added to provisions, as appropriate

Definition of Metal Finishing

METAL FINISHING means a process used to rinse, prepare, or treat the surface of a part by submerging the part into a tank or series of tanks with solution that contains a Metal. Metal Finishing does not include quenching following heat treating.

METAL FINISHING means Anodizing, Conversion Coating, Electroforming, Electroless Plating, Electroplating, Electropolishing, Etch, Passivation, Pre-Dip, Sealing, or Stripping by submerging the part into a tank or series of tanks with solution that contains a Metal. Metal Finishing does not include quenching following heat treating.

- Definition lists the specific operations that would be considered metal finishing
- Staff seeking input on list of applicable tanks
- Added definitions for Metal Finishing are based on prior staff reports, Universal Metal Finishing Guidebook (2012), and other industrial references

Metal Finishing Definitions

- ANODIZING means the electrolytic process by which an oxide layer is produced on the surface of a part
- CONVERSION COATING means the process of converting the surface of a part into a coating using a chemical or electro-chemical process
- ELECTROFORMING means the process of electroplating onto a mandrel or template that is subsequently separated from the electrodeposit formed part
- ELECTROLESS PLATING means the process of autocatalytic or chemical reduction of aqueous metal ions plated onto a part
- ELECTROPLATING means a process by which a layer of metal is electrodeposited onto a part

- Provides definition of the operations that are specified in Metal Finishing definition

Metal Finishing Definitions (Continued)

- ELECTROPOLISHING means the process to smooth, polish, deburr, or clean a part using an electrolytic bath solution
- ETCH means the process to remove material from the surface of a part
- PASSIVATION means the process of forming an oxide layer onto a part
- PRE-DIP means the process to prepare or activate a part's surface immediately prior to introduction into a plating tank
- SEALING means the process of hydrating to fill or plug the pores of a coating by immersing an anodized part in a tank solution
- STRIPPING means the process of removing an existing metal layer from a part

- Provides definition of the operations that are specified in Metal Finishing definition

Definitions - Removed

- Chrome Electroplating or Chromic Acid Anodizing Tank
- Tier I Hexavalent Chromium Tank
- Tier II Hexavalent Chromium Tank
- Tier III Hexavalent Chromium Tank

- Definitions removed as they are no longer needed
- Explained in the Exemptions slides

Definitions – Tank Process Area

TANK PROCESS AREA means an area surrounding a Process Tank that is up to 15 feet or to a wall.

TANK PROCESS AREA means an area surrounding a Process Tank or Rinse Tank that is up to 15 feet or to a wall.

- Revised to include Rinse Tanks

Rinse Tank and Process Tank Definition

- PROCESS TANK means any tank used for Metal Finishing with a tank solution that contains any Metal
- RINSE TANK means any tank where a part is partially or fully submerged into a liquid to remove any residual solution from a Process Tank
- Subdivision (j) - Exemptions provides clarification on when a Process Tank or Rinse Tank would be subject to the rule

Requirements for Process Tanks and Rinse Tanks

- Building Enclosure
  - (d)(1) – Operate within building enclosure
- Housekeeping Requirements
  - (e)(3)(B) - Clean any dust-accumulating surface potentially contaminated with a Metal on a Weekly basis
  - (e)(5) – Eliminate fabric flooring
- Best Management Practices
  - (f)(1) and (f)(2) – Install and utilize drip trays
  - (f)(3) – Spray rinsing requirements
  - (f)(5) – Tank labeling requirements
  - (f)(6) – Install barrier to separate Process Tank or Rinse Tank from buffing, grinding, or polishing areas

Exemptions (j)

Delete (j)(1)

A facility performing Metal Finishing shall be exempt from this rule provided that the individual concentration of hexavalent chromium, nickel, cadmium, or lead in the tank solution are less than 1,000 ppm in each Metal Finishing tank, and:

(A) At least once every 12 calendar months, measure the concentration of hexavalent chromium, nickel, cadmium, and lead through laboratory analysis using an approved ASTM, CARB, or EPA method;

(B) Keep onsite laboratory analysis results pursuant to subparagraph (j)(1)(A) and provide the results to the Executive Officer upon request; and

(C) Does not have any South Coast AQMD permit(s) for Metal Finishing that includes:

(i) A hexavalent chromium, nickel, cadmium, or lead electroplating tank;

(ii) A chromic acid anodizing tank; or

(iii) An operating condition where the maximum concentration of any Metal is 1,000 ppm or greater.

- Facility exemption for tanks less than 1,000 ppm not needed
- Exemptions added for Process Tanks and Rinse Tanks (see following slides)

Added Exemption for Process Tanks

- A Process Tank, except a Stripping, Etch, Electropolishing, or Pre-Dip Tank, would be exempt from PAR 1426 provided the tank solution is less than 1,000 ppm for each individual Metal based on either:
  - A measurement of the concentration of each Metal through a laboratory analysis using an approved ASTM, CARB, or U.S. EPA method; or
  - A South Coast AQMD permit condition requiring the Process Tank to be operated less than 1,000 ppm for each individual Metal

Rinse Tanks and Process Tanks with Variable Concentrations (Stripping, Etch, Electropolishing, or Pre-Dip Tanks)

- The concentration of a Metal in a Rinse, Stripping, Etch, Electropolishing, or Pre-Dip Tank can vary over time
  - The Metal concentration in these tanks increases over time until the tank solution is maintained or cleaned out
- A Stripping, Etch, Electropolishing, or Pre-Dip Tank can start with a Metal concentration less than 1,000 ppm and over time the Metal concentration can be over 1,000 ppm due to the accumulation of Metals in the tank solution
- Rinse Tanks typically start out with only water and tank solution concentrations increase due to dragout

Exemption for Process Tanks with Variable Concentration (Stripping, Etch, Electropolishing, or Pre-Dip Tanks)

- A Stripping, Etch, Electropolishing, or Pre-Dip Tank would be exempt from PAR 1426 provided a South Coast AQMD permit condition requires the Process Tank to be operated at less than 1,000 ppm for each individual Metal
- A Stripping, Etch, Electropolishing, or Pre-Dip Tank would be exempt from PAR 1426 requirements for building enclosure, housekeeping, and best management practices provided the tank solution is either:
  - Replaced at least once every 6 calendar months with a new tank solution that is less than 1,000 ppm for each individual Metal; or
  - Measured at least once every 6 calendar months to demonstrate each individual Metal is less than 1,000 ppm by a laboratory analysis using an approved ASTM, CARB, or U.S. EPA method
- A test for total chromium may be used to represent the concentration of hexavalent chromium
- Records for tank solution replacement and laboratory analysis must be retained and made available to South Coast AQMD upon request
- Records that would demonstrate a tank solution replacement can include a waste manifest, receipt of work performed, or before and after photographs

Exemption for Rinse Tanks

- A Rinse Tank would be exempt from PAR 1426 if either:
  - A South Coast AQMD permit condition requires the Rinse Tank to be operated at less than 1,000 ppm for each individual Metal; or
  - Rinsing operation is designed to be continuously diluted with water, such as a counterflow rinse tank system, or treated by a system to remove Metals, such as a closed loop wastewater treatment system
- A Rinse Tank would be exempt from PAR 1426 requirements for building enclosure, housekeeping, and best management practices provided the rinse water is either:
  - Replaced at least once every 12 calendar months; or
  - Measured at least once every 12 calendar months to demonstrate each individual Metal is less than 1,000 ppm through a laboratory analysis using an approved ASTM, CARB, or U.S. EPA method
- A test for total chromium may be used to represent the concentration of hexavalent chromium
- Records for rinse water replacement and laboratory analysis must be retained and made available to South Coast AQMD upon request
- Records that would demonstrate a replacement of the rinse water can include a waste manifest, receipt of work performed, or before and after photographs

Exemptions for Rule 1469 Facilities

- At the Public Workshop, staff received comments regarding exemptions for Rule 1469 facilities
- Staff is considering amending Rule 1469 to incorporate applicable PAR 1426 provisions to provide better clarity and streamline exemptions
- Areas, tanks, operations, and processes subject to the requirements of Rule 1469 would be exempt from the requirements of PAR 1426
- This approach would eliminate having to address each of the provisions within PAR 1426 to avoid duplicate requirements with Rule 1469
- PAR 1469 would also revise the definition of HEPA to remove the reference to using dioctyl phthalate when individually testing filters since this substance is no longer being used and fix an incorrect table reference
- Staff is seeking input on this approach

PAR 1426 Requirements for Rule 1469 Facilities

	Building Enclosure Requirements			Other Requirements		
Rule 1469 / PAR 1469 Applicability	**Operate Within a Building Enclosure**	**Close Building Openings to Nearest Sensitive Receptor and School**	**Limit Building Openings to 3.5%**	**Minimize Dragout (e.g. drip trays)**	**Restrictions on Spray Rinsing (e.g. splash guards)**	**Install Barrier between buffing, grinding, or polishing area and tanks if in same building**
Tier III - CEP/CAA (Electroplating and Anodizing)	√	√	√	√	√	√
Tier III - Non-CEP/CAA (e.g. heated dichromate seal tank)	√	√	√	New	√	New
Tier II (e.g. dilute dichromate seal)	√	√	√	New	√	New
Tier I (e.g. chem film tank)	√	New		New	New	New

√ - Existing requirement
CEP/CAA – Chromium electroplating/chromic acid anodizing

Additional Comments or Questions on Preliminary Draft Rule Language

Next Steps

- Written comments are due by February 4, 2021
- Stationary Source Committee – February 19, 2021
- Set Hearing – March 5, 2021
- Public Heating – April 2, 2021

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