

RULE 1426 EMISSIONS FROM METAL FINISHING OPERATIONS

(a) Purpose

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

(b) Applicability

This rule applies to an owner or operator of any Metal Finishing facility.

(c) Definitions

- (1) ADD-ON AIR POLLUTION CONTROL EQUIPMENT means equipment installed for the purpose of collecting and containing emissions from nickel, cadmium, or lead electroplating tanks and associated tanks.
- (2) AMPERE-HOURS means the integral of electrical current applied to a plating tank (amperes) over a period of time (hours).
- (3) ANODIZING means the electrolytic process by which an oxide layer is produced on the surface of a part.
- (4) APPROVED CLEANING METHOD means cleaning using a wet mop, damp cloth, wet wash, low pressure spray nozzle, HEPA Vacuum, or other method as approved by the Executive Officer.
- (5) BARRIER means a physical divider that can be fixed or portable such as a wall, welding screen, plastic strip curtains, etc.
- (6) BUILDING ENCLOSURE means a permanent building or physical structure with a floor, walls, and a roof to prevent exposure to the elements, (e.g. precipitation, wind, run-off), with limited openings to allow access for people, vehicles, equipment, or parts. A room within a Building Enclosure with a floor, walls, and a roof would also meet this definition.
- (7) CONVERSION COATING means the process of converting the surface of a part into a coating using a chemical or electro-chemical process.
- (8) DRAGOUT means fluid containing hexavalent chromium, nickel, cadmium, or lead that drips from parts or equipment used to remove those parts from a Process Tank or Rinse Tank.
- (9) ELECTROFORMING means the process of Electroplating onto a mandrel or template that is subsequently separated from the electrodeposit formed part.

- (c) (10) ELECTROLESS PLATING means the process of autocatalytic or chemical reduction of aqueous Metal ions plated onto a part.
- (11) ELECTROPLATING means a process by which a layer of Metal is electrodeposited onto a part.
- (12) ELECTROPOLISHING means the process to smooth, polish, deburr, or clean a part using an electrolytic bath solution.
- (13) ENCLOSED STORAGE AREA means any space or structure used to contain material that prevents its contents from being emitted into the atmosphere.
- (14) ETCH means the process to remove material from the surface of a part.
- (15) FUGITIVE DUST means hexavalent chromium, nickel, cadmium, or lead particulate matter that becomes airborne by natural or man-made activities, excluding particulate matter emitted from an exhaust stack.
- (16) HEPA VACUUM means a vacuum that is both designed to be fitted and used with a filter that is individually tested and certified by the manufacturer to have a control efficiency of not less than 99.97 percent on 0.3 micron particles.
- (17) METAL means hexavalent chromium, nickel, cadmium, or lead.
- (18) 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.
- (19) METAL REMOVAL FLUID means a fluid used at the tool and workpiece interface to facilitate the removal of metal from the part, cool the part and tool, extend the life of the tool, and to flush away metal chips and debris, but does not include minimum quantity lubrication fluids used to coat the tool work piece interface with a thin film of lubricant and minimize heat buildup through friction reduction. Minimum quantity lubrication fluids are applied by pre-coating the tool in the lubricant, or by direct application at the tool work piece interface with a fine mist.
- (20) PASSIVATION means the process of forming an oxide layer onto a part.
- (21) PRE-DIP means the process to prepare or activate a part's surface immediately prior to introduction into another Metal Finishing tank.
- (22) PROCESS TANK means any tank used for Metal Finishing with a tank solution that contains a Metal.

- (c) (23) 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.
 - (24) SCHOOL means any public or private school, including juvenile detention facilities with classrooms, used for the education of more than 12 children at the school in kindergarten through grade 12. A School also includes an Early Learning and Developmental Program by the U.S. Department of Education or any state or local early learning and development programs such as preschools, Early Head Start, Head Start, First Five, and Child Development Centers. A School does not include any private school in which education is primarily conducted in private homes. The term School includes any building or structure, playground, athletic field, or other area of School property.
 - (25) SEALING means the process of hydrating to fill or plug the pores of a coating by immersing an anodized part in a tank solution.
 - (26) SENSITIVE RECEPTOR means any residence including private homes, condominiums, apartments, and living quarters. A Sensitive Receptor also includes Schools, daycare centers, health care facilities such as hospitals or retirement and nursing homes, long term care hospitals, hospices, prisons, and dormitories or similar live-in housing.
 - (27) STRIPPING means the process of removing an existing Metal layer from a part.
 - (28) TANK PROCESS AREA means an area surrounding a Process Tank or Rinse Tank that is up to 15 feet or to a wall.
 - (29) TIER I HEXAVALENT CHROMIUM TANK is a tank subject to and defined in Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations.
 - (30) TIER II HEXAVALENT CHROMIUM TANK is a tank subject to and defined in Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations.
 - (31) TIER III HEXAVALENT CHROMIUM TANK is a tank subject to and defined in Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations.
 - (32) WEEKLY means at least once every seven calendar days.
- (d) Building Enclosure Requirements

- (d) (1) Beginning January 1, 2023, an owner or operator of a Metal Finishing facility shall operate all Process Tank(s) and Rinse Tank(s) within a Building Enclosure such that the following are met:
- (A) The Building Enclosure openings that are open to the exterior and on opposite ends of the Building Enclosure shall not be simultaneously open except during the passage of vehicles, equipment, or people by using one or more of the following at one of the openings to prevent the passage of air:
 - (i) A door that automatically closes;
 - (ii) Overlapping plastic strip curtain;
 - (iii) A vestibule;
 - (iv) An airlock system;
 - (v) A Barrier or obstruction, such as a large piece of equipment that prevents air from passing through any space where Metal Finishing is conducted; or
 - (vi) An alternative method to minimize the release of Fugitive Dust from the Building Enclosure that is approved by the Executive Officer.
 - (B) Except during the movement of vehicles, equipment, or people, close any Building Enclosure opening by using one or more of the methods listed in clauses (d)(1)(A)(i) through (d)(1)(A)(iv) and (d)(1)(A)(vi) that directly faces and opens towards the nearest:
 - (i) Sensitive Receptor, with the exception of a School, that is located within 1,000 feet, as measured from the property line of the Sensitive Receptor to the Building Enclosure opening; and
 - (ii) School that is located within 1,000 feet, as measured from the property line of the School to the Building Enclosure opening.
- (2) Beginning January 1, 2023, an owner or operator of a Metal Finishing facility shall conduct all buffing, grinding, and polishing operations within a Building Enclosure.
- (e) Housekeeping Requirements
- Beginning January 1, 2023, an owner or operator of a Metal Finishing facility shall:

- (e)
 - (1) Store chemicals that may contain a Metal in a closed container in an Enclosed Storage Area when not in use.
 - (2) Use a closed container when transporting chemicals pursuant to paragraph (e)(1) between an Enclosed Storage Area and Tank Process Area.
 - (3) Clean using an Approved Cleaning Method:
 - (A) Any liquid or solid material that may contain a Metal that is spilled no later than one hour after being spilled onto a solid surface, except if spilled in a drip tray or containment device;
 - (B) Surfaces within the Enclosed Storage Area, open floor area, walkways around the Process Tank(s), walkways around the Rinse Tank(s), and any dust-accumulating surface potentially contaminated with Metal on a Weekly basis;
 - (C) Splashguards, drip trays, collection devices, or containment devices on a Weekly basis; and
 - (D) Floors within 20 feet of a buffing, grinding, or polishing workstation at least once a day on days when buffing, grinding, or polishing are conducted.
 - (4) Store waste materials that may contain a Metal in a container that is kept closed at all times except during filling or emptying.
 - (5) Eliminate all flooring in the Tank Process Area that is made of a fabric material, such as carpets or rugs.
 - (6) Store the following in a closed container or in an Enclosed Storage Area:
 - (A) Cleaning equipment and supplies used for housekeeping pursuant to paragraph (e)(3) when not in use;
 - (B) Reusable tank covers used with a Process Tank when not on the tank;
 - (C) Reusable hangers used with a Process Tank when not holding a part; and
 - (D) Anodes and cathodes used with a Process Tank when not in the tank.
 - (7) Ensure that the HEPA filter of a HEPA Vacuum is free of tears, fractures, holes or other types of damage, and securely latched and properly situated in the vacuum to prevent air leakage from the filtration system.
- (f) Best Management Practices
Beginning January 1, 2023, an owner or operator of a Metal Finishing facility shall:

- (f) (1) Minimize Dragout from a Process Tank or Rinse Tank in an automated line by installing a drip tray or other collection or containment device between a Process Tank or Rinse Tank such that liquid is collected and does not fall through the space between tanks.
- (2) Minimize Dragout from a Process Tank or Rinse Tank in a non-automated line by handling each part or equipment used to handle these parts, so that liquid is not dripped outside a Process Tank or Rinse Tank unless the liquid is collected by a drip tray or other collection or containment device.
- (3) If not treated as waste, return all liquid collected pursuant to paragraphs (f)(1) and (f)(2) back to the tank.
- (4) Not conduct spray rinsing of parts or equipment that were previously in a Process Tank or Rinse Tank, unless the parts or equipment are:
 - (A) Fully lowered inside a tank where the liquid is captured inside the tank;
 - (B) Above a tank with a splash guard(s) that are free of holes, tears, or openings where all liquid is returned to the tank; or
 - (C) Above a tank where all liquid is returned to the tank and a low pressure spray nozzle is used, and the tanks are located within a process line utilizing an overhead crane system.
- (5) Maintain clear labeling for each tank within the Tank Process Area that specifies the tank name or other identifier, South Coast AQMD permit number and tank number, bath contents, maximum concentration (in ppm) of all Metals, rectification, operating temperature range, and any agitation methods used, if applicable.
- (6) Install a Barrier to prevent the migration of dust from buffing, grinding, or polishing areas to a Process Tank or Rinse Tank that is located in the same Building Enclosure.
- (7) Comply with the manufacturers' recommended schedule for inspecting and maintaining Add-on Air Pollution Control Equipment that controls nickel, cadmium, or lead electroplating operation(s). If the inspection frequency is not specified by the manufacturer, inspection and maintenance activities shall be conducted at least once per calendar quarter.
- (8) Not air sparge a Process Tank when Metal Finishing is not occurring or while a dry chemical containing a Metal is being added.

(g) Recordkeeping

- (1) An owner or operator of a Metal Finishing facility with an Ampere-hour meter equipped at a Process Tank shall record the actual cumulative rectifier usage for each calendar month and the total for each calendar year.
- (2) Prior to replacement of a continuous recording non-resettable Ampere-hour meter equipped at a Process Tank, an owner or operator of a Metal Finishing facility shall photograph the actual Ampere-hour reading of the Ampere-hour meter being replaced.
- (3) Immediately following the installation of a new Ampere-hour meter, an owner or operator of a Metal Finishing facility shall photograph the actual Ampere-hour reading of the new Ampere-hour meter.
- (4) An owner or operator of a Metal Finishing facility shall maintain records demonstrating compliance with the requirements of subdivisions (e) and (f) and paragraphs (g)(1) and (g)(2).
- (5) All records shall be maintained for at least five years; at least the two most current years shall be kept on site.

(h) Reporting

- (1) Beginning January 1, 2022, an owner or operator of a Metal Finishing facility shall keep onsite and make available to the Executive Officer, upon request, a Tank Inventory Report for all Process Tanks and Rinse Tanks that includes the following information:
 - (A) Facility name;
 - (B) South Coast AQMD facility identification number;
 - (C) Equipment address;
 - (D) Business hours;
 - (E) Facility contact information with name, title, and phone number;
and
 - (F) Process Tank and Rinse Tank information including:
 - (i) Tank name or other identifier;
 - (ii) South Coast AQMD permit number and tank number;
 - (iii) Bath contents;
 - (iv) Maximum concentration (in ppm) of all Metals;
 - (v) Applicable Rule 1426 Exemption;
 - (vi) Rectification, if applicable;

- (h) (1) (F) (vii) Operating temperature range, if applicable; and
(viii) Agitation method used, if applicable.
- (2) No later than February 1, 2022, an owner or operator of a Metal Finishing facility operating on or before January 1, 2022 shall submit a Tank Inventory Report to the Executive Officer.
- (3) Within 14 days of receiving a written request from the Executive Officer, an owner or operator of a Metal Finishing facility shall provide an updated Tank Inventory Report.

(i) Interim Requirements for Facilities

The following requirements shall be in effect until the requirements of subdivisions (e) and (f) become effective on January 1, 2023.

- (1) An owner or operator of a facility conducting chromium, nickel, cadmium, or lead Electroplating operations, or chromic acid Anodizing shall not air sparge tanks containing chromic acid when the tank is not in use, and may air sparge the tank up to one hour prior to parts being placed in the tank, and one hour after parts are removed from the tank.
- (2) An owner or operator of a facility conducting chromium, nickel, cadmium, or lead Electroplating operations, or chromic acid Anodizing shall:
 - (A) Store nickel, cadmium, and lead in powder or Metal salt form in a closed container in an Enclosed Storage Area;
 - (B) Use a closed container when transporting nickel, cadmium, or lead in powder or Metal salt from an Enclosed Storage Area to Electroplating tanks;
 - (C) Wash down, vacuum, or wet mop, or maintain with the use of non-toxic chemical dust suppressants surfaces within the Enclosed Storage Area that accumulate dust; and
 - (D) Store, dispose of, recover, or recycle wastes which contain nickel, cadmium, or lead generated from housekeeping activities by using practices that do not lead to Fugitive Dust.
 - (E) Comply with the manufacturers recommended schedule for inspecting and maintaining Add-on Air Pollution Control Equipment that controls nickel, cadmium, or lead Electroplating operation(s). If the inspection frequency is not specified by the manufacturer, recommended inspection and maintenance activities shall be conducted at least once per calendar quarter.

- (i) (3) The owner or operator of a facility conducting chromium, nickel, cadmium, or lead Electroplating operations, or chromic acid Anodizing shall maintain records demonstrating compliance with housekeeping practices, as required by subparagraphs (i)(2)(A) through (i)(2)(D) including the name of the person performing specified activities, the dates on which specific activities were completed, and records showing that wastes containing chromium, nickel, cadmium, or lead have been stored, disposed of, recovered, or recycled.

- (j) Exemptions
 - (1) The requirements of this rule, except subdivision (h), do not apply to an Anodizing, Conversion Coating, Electroforming, Electroless Plating, Electroplating, Passivation, Pre-Dip, or Sealing tank provided either:
 - (A) A South Coast AQMD permit condition limits the tank solution concentration to less than 1,000 ppm for each individual Metal;
 - (B) Records for the tank solution are retained on-site and made available to the Executive Officer, upon request, that does not specify a concentration of 1,000 ppm or greater for any Metal; or
 - (C) A laboratory analysis demonstrating that the tank solution contains less than 1,000 ppm for each individual Metal is:
 - (i) Performed using an approved ASTM, CARB, or U.S. EPA test method, where total chromium may serve as a surrogate for hexavalent chromium;
 - (ii) Retained on-site; and
 - (iii) Made available to the Executive Officer, upon request.
 - (2) The requirements of this rule, except subdivision (h), do not apply to a Stripping, Etch, or Electropolishing tank provided either:
 - (A) A South Coast AQMD permit condition limits the tank solution concentration to less than 1,000 ppm for each individual Metal;
 - (B) The tank solution is replaced at least once every 6 calendar months with new tank solution that contains less than 1,000 ppm for each individual Metal and the corresponding records are retained on-site; or
 - (C) A laboratory analysis demonstrating that the tank solution contains less than 1,000 ppm for each individual Metal is:
 - (i) Conducted every 6 calendar months;

- (j) (2) (C) (ii) Performed using an approved ASTM, CARB, or U.S. EPA test method, where total chromium may serve as a surrogate for hexavalent chromium;
 - (iii) Retained on-site; and
 - (iv) Made available to the Executive Officer, upon request.
- (3) The requirements of this rule, except subdivision (h), do not apply to a Rinse Tank provided either:
- (A) A South Coast AQMD permit condition limits the Rinse Tank solution concentration to less than 1,000 ppm for each individual Metal;
 - (B) The Rinse Tank is part of a rinsing operation that is designed to be continuously diluted with water;
 - (C) The Rinse Tank is permanently connected to a system to remove Metal;
 - (D) The tank solution is replaced at least once every 12 calendar months with water and the corresponding records are retained on-site; or
 - (E) A laboratory analysis demonstrating that the tank solution contains less than 1,000 ppm for each individual Metal is:
 - (i) Conducted every 12 calendar months;
 - (ii) Performed using an approved ASTM, CARB, or U.S. EPA test method, where total chromium may serve as a surrogate for hexavalent chromium;
 - (iii) Retained on-site; and
 - (iv) Made available to the Executive Officer, upon request.
- (4) The requirements of subdivision (d) do not apply to Building Enclosures subject to the requirements of Rule 1469.
- (5) The requirements of subdivision (e) do not apply to areas, materials, or equipment that are subject to the requirements of Rule 1469.
- (6) The requirements of subdivision (f), except paragraph (f)(5), do not apply to Tier I, Tier II, or Tier III Hexavalent Chromium Tanks that are subject to the requirements of Rule 1469.
- (7) The requirements of subdivision (d) do not apply to total enclosures that are subject to the requirements of Rule 1420 – Emissions Standard for Lead.

- (j) (8) The requirements of paragraphs (d)(2) and (f)(6), and subparagraph (e)(3)(D) do not apply to buffing, grinding, or polishing operations conducted under a continuous flood of Metal Removal Fluid.