

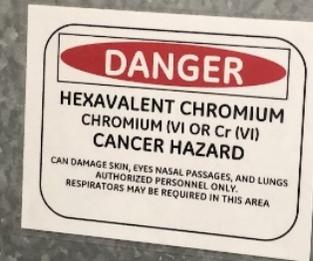


# Public Workshop

February 18, 2021  
1:30 p.m.

T209

DO NOT OPEN DOOR  
IF BOOTH IS ON



## Proposed Amended Rule 1469.1 - Spraying Operations Using Coatings Containing Chromium

Zoom meeting link:

<https://scaqmd.zoom.us/j/98156585480>

Webinar ID: 981 5658 5480

Dial-In: (669) 900-6833

# Background

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- Rule 1469.1 was adopted in 2005 to reduce hexavalent chromium emissions from chromate spraying
  - Established three compliance options to reduce point source emissions
  - Included requirements for transfer efficiency of coating application, spray booth operation, housekeeping, monitoring, reporting and recordkeeping
- PAR 1469.1 would further reduce point source and fugitive emissions of hexavalent chromium from chromate spraying and related operations
- Provisions are consistent with requirements in other recently amended or adopted South Coast AQMD toxic metal particulate rules but modified for chromate spray coating and related operations

# Implementation Approach

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- COVID-19 pandemic has resulted in challenges and financial burdens on facilities subject to PAR 1469.1
  - Government restrictions in response to COVID-19
  - Supply chain impacts
  - Additional requirements for employee health and safety
- Implementation of PAR 1469.1 balances the need for emission reductions with the temporary impact from the pandemic by providing longer lead times for compliance dates
  - Final compliance dates for dried chromate coating removal point source and spray booth capture efficiency requirements are January 2026

# Chromate Spraying Operations

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- Chromate spraying is the spraying of chromate containing coatings (referred to as chromate coatings) onto metal surfaces to provide corrosion protection
  - Typically used to support the aerospace, military, and industrial equipment industries
- Chromate is a form of hexavalent chromium that can be found in coatings
  - Types of chromates found in coatings include strontium chromate, barium chromate, and zinc chromate
- In addition to the spraying of chromate coatings, PAR 1469.1 also addresses emissions from related operations which includes dried chromate coating removal and demasking activities

# PAR 1469.1 Structure

- a) Purpose
  - b) Applicability
  - c) Definitions
  - d) Point Source Requirements
  - e) Alternate Point Source Requirements for Chromate Spraying Operations With Approved Compliance Plans or Health Risk Assessments
  - f) Point Source Requirements for Dried Chromate Coating Removal Activities
  - g) Spray Booth Capture Efficiency Requirements
  - h) Requirements for Building Enclosures
  - i) Housekeeping Requirements
  - j) Best Management Practices
  - k) Pressure Drop Across Filter Media
  - l) Spray Booth Exhaust Duct Cleaning Requirements
  - m) Recordkeeping Requirements
  - n) Prohibitions
  - o) Interim Requirements
  - p) Exemptions
- Appendix 1 – Air Velocity Measurement Procedures
- Appendix 2 – Compliance Plan for Subdivision (e)  
Alternate Point Source Requirements

# Purpose (a)

(a) Purpose

The purpose of this rule is to reduce emissions of hexavalent chromium from spray coating and related operations.

- Added “emissions of” and “and related” to clarify rule intent

# Applicability (b)

Demasking Activity means an activity in which tape or other masking material is removed from workpieces that have been coated with chromate coatings.

## (b) Applicability

This rule applies to an owner or operator conducting spraying of chromate coatings, dried chromate coating removal activities, demasking activities, and other chromate spraying related operations and activities.

Dried Chromate Coating Removal Activity means an activity whereby dried chromate coatings on workpieces are removed through physical or mechanical means, such as buffing, scuffing, sanding, or grinding.

- Clarified that PAR 1469.1 applies to:
  - Spraying of chromate coatings
  - Dried chromate coating removal activities
  - Demasking activities
  - Other related operations and activities

# Definitions Deleted

- Definitions deleted
  - Capture Efficiency
  - Coating Application Equipment
  - Control Efficiency
  - Equipment
  - Existing Air Pollution Controls
  - Existing Source or Source
  - New Source
  - Primer
  - Responsible Official
  - Spraying Operation or Spraying Process
- Key definitions that are added or amended are discussed throughout the presentation
- Removed 10 existing definitions not used in PAR 1469.1

# Point Source Requirements (d)(1)

- (1) An owner or operator of a facility with a chromate spraying operation shall:
- (A) Conduct chromate spraying operations in a spray booth that is vented to an air pollution control system with filters individually tested and certified by the manufacturer to have a control efficiency of at least 99.97 percent on 0.3 micron or smaller particles; or
  - (B) Meet the alternate point source requirements of subdivision (e) until the date specified in subparagraph (d)(2)(B).

(d)(3)(b)

- Requires facilities to conduct spraying operations in spray booths that either meet:
  - HEPA requirement or
  - Alternative Point Source Requirement
- Alternate point source requirement applies to facilities that had previously approved Compliance Plan or Health Risk Assessment to operate spray booths without meeting the HEPA requirement



## Point Source Requirements (d)(2)

- (2) An owner or operator of a facility with a chromate spraying operation that meets the alternate point source requirements pursuant to subparagraph (d)(1)(B) shall:
- (A) On or before January 1, 2023, submit complete permit applications for a spray booth that meets the requirements of subparagraph (d)(1)(A); and
  - (B) No later than 18 months after a Permit to Construct has been issued or January 1, 2026, whichever is sooner, meet the requirements of subparagraph (d)(1)(A).

- Facilities currently meeting the alternate point source requirement must:
  - Submit permit application by January 1, 2023
  - Meet HEPA requirement 18 months after Permit to Construct is issued or January 1, 2026, whichever date is sooner
- Beginning January 1, 2026, spray booths meeting subdivision (e) cannot be operated unless it meets HEPA requirement

# Point Source Requirements (d)(3)

- (3) When spraying chromate coatings, an owner or operator of a facility with a chromate spraying operation shall ensure that:
- (A) Visible emissions do not exit the spray booth;
  - (B) Inward air flow of the spray booth is maintained by meeting the interim inward face air velocity requirement of paragraph (o)(1) before January 1, 2026 and the capture efficiency requirements in paragraph (g)(1) beginning January 1, 2026; and
  - (C) All spray booth filters are free of leaks, breaks, and tears, and are properly seated.

- Specifies key operating requirements for a spray booth
- Modified existing spray booth operation provisions to provide more specificity and clarity
  - Specifies capture efficiency requirements
  - Specifies requirements for spray booth filters
- Interim provisions maintain the existing Rule 1469.1 inward face velocity requirements (100 feet per minute) for open face spray booths until subdivision (g) is applicable

# Alternate Point Source Requirements for Chromate Spraying Operations With Approved Compliance Plans or Health Risk Assessments (e)

- Only applicable to existing facilities that meet health risk compliance options allowed under existing Rule 1469.1
  - Three facilities
- Subdivision (e) requires continued compliance with existing requirements, except submittal of annual coatings used, until control device meeting the requirements in subparagraph (d)(1)(A) are met



# Point Source Requirements for Dried Chromate Coating Removal Activities (f)

- (1) Beginning January 1, 2026 or the date specified in subparagraph (f)(2)(B), an owner or operator of a facility with a chromate spraying operation shall ensure any dried chromate coating removal activity is vented to a control device that is:
  - (A) Equipped with filters that are individually tested and certified by the manufacturer to have a control efficiency of at least 99.97 percent on 0.3 micron or smaller particles; and
  - (B) Operated pursuant to a South Coast AQMD Permit.
- (2) An owner or operator of a facility with a chromate spraying operation that is conducting any dried chromate coating removal activity without a control device or with a control device that does not meet the requirements of paragraph (f)(1) shall:
  - (A) On or before January 1, 2023, submit a complete permit application for a control device that meets the requirements of subparagraph (f)(1)(A); and
  - (B) No later than 18 months after a Permit to Construct has been issued or January 1, 2026, whichever is sooner, vent the dried chromate coating removal activity to the permitted control device that meets the requirements of subparagraph (f)(1)(A).
- (3) An owner or operator of a facility with a chromate spraying operation conducting dried coating removal activity shall not operate a spray booth or other control device unless the filters are free of leaks, breaks, and tears, and are properly seated.

- Dried coating removal activities must be vented to air pollution controls by January 1, 2026
  - No permit modification required if filters meet requirements of (f)(1)(A)
- An owner or operator without pollution controls must:
  - Submit permit application by January 1, 2023
  - Vent dried coating activities to pollution controls 18 months after Permit to Construct is issued or by January 1, 2026, whichever is sooner
- Added filter performance standard

# Spray Booth Capture Efficiency Requirements (g)(1)



- (1) Beginning January 1, 2026 or the date specified in subparagraph (g)(2)(B), an owner or operator with a chromate spraying operation shall not conduct chromate spraying operations or dried chromate coating removal activity in a spray booth unless a demonstration is made that:
  - (A) The applicable average velocity and minimum velocity in Table 1 – Spray Booth Inward Face Air Velocity Requirements are met for the enclosed or open face spray booth using Appendix 1 – Inward Face Air Velocity Measurement Procedures; or
  - (B) The enclosed spray booth meets the design requirements of a permanent total enclosure set forth in U.S. EPA Method 204 or other design approved by the Executive Officer.

Permanent Total Enclosure means a permanent building or containment structure, enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-off) that has limited openings to allow access for people and vehicles, that is free of breaks or deterioration that could cause or result in fugitive emissions, and has been evaluated to meet the design requirements set forth in U.S. EPA Method 204, or other design approved by the Executive Officer

- Current Rule 1469.1 inward face air velocity requirements only apply to open spray booths
  - This is maintained as an interim requirement in paragraph (o)(1) until January 1, 2026
- Beginning January 1, 2026, PAR 1469.1 requires an owner or operator to demonstrate that spray booths meet capture efficiency requirements by either:
  - Measuring the inward face air velocity or
  - Meeting the requirements for a PTE

# Table 1 – Spray Booth Inward Face Air Velocity Requirements

**Table 1 – Spray Booth Inward Face Air Velocity Requirements**

<b>Spray Booth Type</b>	<b>Measurement Location</b>	<b>Average Velocity of Measurement Points</b>	<b>Minimum Velocity at Each Measurement Point</b>
Enclosed Non-Bench	At the filter face	100 feet per minute	75 feet per minute
Open Face Non-Bench	At the opening of the booth		
Enclosed Bench	At the filter face	150 feet per minute	125 feet per minute
Open Face Bench	At the opening of the booth		

Table 1:

- Specifies inward face velocity requirements for open and enclosed, bench and non-bench spray booths
- Specifies the measurement locations
- Specifies average and minimum velocity requirements
- Applicable as of January 1, 2026

Appendix 1 establishes measurement procedures

# Spray Booth Capture Efficiency Requirements (g)(2), (g)(3), & Table 2

- (2) An owner or operator of a facility with chromate spraying operations that cannot meet the requirements of paragraph (g)(1) shall:
  - (A) On or before January 1, 2023, submit a complete permit application to modify the spray booth to meet the requirements of paragraph (g)(1); and
  - (B) Modify the spray booth no later than 18 months after a Permit to Construct has been issued or January 1, 2026, whichever is sooner.
- (3) After demonstrating that a spray booth meets the requirements of paragraph (g)(1), an owner or operator of a facility with a chromate spraying operation shall demonstrate that the spray booth continues to meet the requirements of paragraph (g)(1) according to the frequency in Table 2 – Capture Efficiency Demonstration Frequency.

**Table 2 - Capture Efficiency Demonstration Frequency**

Spray Booth Type	Demonstration Frequency
Enclosed Non-Bench or Bench	At least once every 12 calendar months from the previous air velocity measurement pursuant to subparagraph (g)(1)(A) or permanent total enclosure demonstration pursuant to subparagraph (g)(1)(B)
Open Face Non-Bench or Bench	At least once every six calendar months from the previous air velocity measurement pursuant to subparagraph (g)(1)(A)

- Facilities with a spray booth that cannot meet capture efficiency requirements must:
  - Submit permit application to modify the booth by January 1, 2023
  - Modify the booth no later than 18 months after Permit to Construct issuance or January 1, 2026, whichever is sooner
- Demonstrate booth meets capture efficiency requirements according to the schedule in Table 2:
  - Enclosed Booth – Every 12 months
  - Open Booth – Every 6 months

# Failure to Meet Spray Booth Capture Efficiency Demonstrations (g)(4)

- (4) Beginning January 1, 2026, an owner or operator of a facility with a chromate spraying operation that fails to meet the requirements of paragraph (g)(1) shall:
- (A) Not operate the spray booth for chromate spraying operations or dried chromate coating removal activities;
  - (B) Perform necessary actions or repairs and meet the requirements of paragraph (g)(1) before operating the spray booth; and
  - (C) Notify the Executive Officer within 24 hours by calling 1-800-CUT-SMOG if the necessary actions or repairs pursuant to subparagraph (g)(4)(B) cannot be completed within 30 days of the failure to meet the requirements of paragraph (g)(1).

- After a failed velocity measurement
  - Stop operations
  - Take necessary actions or conduct repairs and demonstrate that the paragraph (g)(1) capture efficiency requirements are met
- Notification required if repairs cannot be completed within 30 days

# Increased Frequency for Spray Booth Capture Efficiency Demonstrations After a Failed Measurement (g)(5) & (g)(6)

- (5) Prior to conducting chromate spraying or any dried chromate coating removal, an owner or operator of a facility with a chromate spraying operation that is required to notify the Executive Officer pursuant to subparagraph (g)(4)(C) and has met the requirements in paragraph (g)(1) shall:
- (A) Notify the Executive Officer within 24 hours of meeting the requirements of paragraph (g)(1) by calling 1-800-CUT-SMOG; and
  - (B) Demonstrate that the spray booth meets the requirements in paragraph (g)(1) and every 30 days thereafter.
- (6) After three consecutive demonstrations pursuant to subparagraph (g)(5)(B), an owner or operator of a facility with a chromate spraying operation shall demonstrate that the spray booth continues to meet the requirements of paragraph (g)(1) according to the frequency specified in Table 2 – Capture Efficiency Demonstration Frequency.

- Facilities that take more than 30 days to meet the capture efficiency requirements in paragraph (g)(1) must:
  - Notify South Coast AQMD when capture efficiency requirements have been met
  - Demonstrate that the paragraph (g)(1) capture efficiency requirements are met every 30 days
- After 3 consecutive demonstrations, facility returns to schedule in Table 2

# Requirements for Building Enclosures (h)(1), (h)(2) & (h)(3)



Building Enclosure means a permanent building or physical structure, or a portion of a building, 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 workpieces.

## (h) Requirements for Building Enclosures

- (1) An owner or operator of a facility with a chromate spraying operation shall conduct the following within a building enclosure:
  - (A) Spraying operations;
  - (B) Dried chromate coating removal activities; and
  - (C) Demasking activities.
- (2) An owner or operator of a facility with a chromate spraying operation shall store workpiece support equipment within a building enclosure.
- (3) An owner or operator of a facility with a chromate spraying operation shall store cleaning equipment used to conduct housekeeping activities pursuant to subdivision (i) within a building enclosure.

- Conduct the following within a building enclosure
  - Spraying
  - Dried chromate coating removal or demasking
- Store the following within a building
  - Workpiece support equipment
  - Cleaning equipment

# Requirements to Close Building Openings (h)(4)

- (4) Beginning January 1, 2022, except for the movement of vehicles, equipment, or people, an owner or operator of a facility with a chromate spraying operation shall:
  - (A) Close any building openings within 20 feet of:
    - (i) The opening of an open face spray booth;
    - (ii) Areas where dried chromate coating removal activities occur; and
    - (iii) Areas where demasking activities occur; and
  - (B) Use one of more of the following methods to close building openings:
    - (i) Door that automatically closes;
    - (ii) Overlapping plastic strip curtains;
    - (iii) Vestibule;
    - (iv) Airlock system; or
    - (v) Alternative method to minimize the release of fugitive emissions from the building that an owner or operator of a facility with chromate coating spraying operations can demonstrate to the Executive Officer is an equivalent or more effective method to minimize the movement of air from within the building to the outside.

- By January 1, 2022, building openings within 20 feet of an open face spray booth or an area where dried chromate coating removal or demasking occurs are required to be closed
- Methods are provided on how to close building openings, consistent with other toxic metal particulate rules

# Housekeeping Requirements (i)(1) and (i)(2) – Routine Cleaning



- (1) Beginning January 1, 2022, an owner or operator of a facility with a chromate spraying operation shall use an approved cleaning method to clean, at the frequencies specified in Table 3 – Cleaning Frequencies, all floor areas within 20 feet of:
- (A) Areas from the opening of an open face spray booth;
  - (B) Ingresses and egresses of an enclosed spray booth located within a building enclosure;
  - (C) Areas where dried chromate coating removal or demasking activities are conducted;
  - (D) Areas where chromate coatings are mixed;
  - (E) Storage areas for equipment and materials that may contain chromates; and
  - (F) Waste storage areas for materials that may contain chromates.
- (2) Beginning January 1, 2022, an owner or operator of a facility with a chromate spraying operation shall use an approved cleaning method to clean, at the frequencies specified in Table 3 – Cleaning Frequencies, all floor areas within:
- (A) Workpiece support equipment transit paths identified in paragraph (j)(6); and
  - (B) Workpiece support equipment storage areas identified in paragraph (j)(7).

Approved Cleaning Method means cleaning using a wet mop, damp cloth, wet wash, low pressure spray nozzle, HEPA vacuum, protective coverings, or other method as approved by the Executive Officer.

- All housekeeping measures in subdivision (i) are effective January 1, 2022
- Specifies areas to be cleaned using approved cleaning methods
- Cleaning frequency specified in Table 3 (next slide)

# Housekeeping Requirements – Cleaning Frequencies

**Table 3 – Cleaning Frequencies**

<b>Applicable Provisions</b>	<b>For Areas Not Located Within a Permanent Total Enclosure</b>	<b>For Areas Located Within a Permanent Total Enclosure</b>
(i)(1)(A) and (i)(1)(B)	Once per week, for any week when chromate spraying operations are conducted on one or more days	Once per month, for any month when chromate spraying operations are conducted on one or more days
(i)(1)(C), (i)(1)(D), (i)(1)(E), and (i)(1)(F)	Once per week, for any week when activities are conducted on one or more days	Once per month, for any month when activities are conducted on one or more days
(i)(2)(A) and (i)(2)(B)	Once per week, for any week when workpiece support equipment is moved on one or more days	Once per month, for any month when workpiece support equipment is moved on one or more days

- Table 3 Cleaning Frequencies
  - Cleaning frequencies dependent on chromate spraying operations
  - Less frequent cleaning required within a permanent total enclosure

# Housekeeping Requirements (i)(3) through (i)(6)

- (3) Beginning January 1, 2022, an owner or operator of a facility with a chromate spraying operation shall use an approved cleaning method to clean all ground areas within 20 feet of ingresses and egresses of an enclosed spray booth located outside a building enclosure once per day on days when chromate spraying operations are conducted within the spray booth.
- (4) Beginning January 1, 2022, an owner or operator of a facility with a chromate spraying operation shall use an approved cleaning method to clean spills of liquid or solid material that may contain chromates immediately but no later than one hour after being spilled.
- (5) Beginning January 1, 2022, an owner or operator of a facility with a chromate spraying operation shall use an approved cleaning method to clean all floors within a spray booth without protective coverings at least once per week, during any week when activities subject to this rule are conducted on one or more days within the spray booth.
- (6) Beginning January 1, 2022, an owner or operator of a facility with a chromate spraying operation shall remove and replace all spray booth protective floor or wall coverings at least every six months.

- On days when a spray booth located outside is operated, clean within 20 ft of booth ingresses and egresses
- Clean spills of liquid or solid materials within 1 hour
- For spray booths without protective coverings, clean floors within the spray booth weekly on weeks when booth is operated



# Alternative Spray Booth Housekeeping Requirements – (i)(7)

Sticky Mat means a non-reusable floor mat with an adhesive or tacky surface that removes particles from shoes, wheels, or other objects that travel over the mat.

- (7) Beginning January 1, 2022, an owner or operator of a facility with a chromate spraying operation that elects to use sticky mats in lieu of conducting the housekeeping requirements specified in subparagraphs (i)(1)(A) and (i)(1)(B) and paragraphs (i)(5) and (i)(6) shall ensure the sticky mats are:
- (A) At least two feet in depth and as wide as the opening at all spray booth ingresses and egresses;
  - (B) Placed in locations such that all foot and equipment traffic into and out of the spray booth travels over the sticky mats; and
  - (C) Replaced at least once per day on days when chromate spraying operations are conducted in the spray booth. Used sticky mats shall be disposed of in a container before removal from a building. The container shall remain closed except when being filled or emptied.

- Based on stakeholder comments, added provisions to recognize use of sticky mats
- If sticky mats are used as an alternative to housekeeping, operator must place sticky mats at spray booth entrances and replace mats each day that the booth is used for chromate spraying

# Housekeeping: Waste Containers and HEPA Vacuum – (i)(8) & (i)(9)



- (8) Beginning January 1, 2022, an owner or operator of a facility with a chromate spraying operation shall place waste materials that may contain chromates immediately in a container. The container shall remain closed except when being filled or emptied. If waste material will be transferred to other on-site containers, the container shall be lined with removeable bags.
- (9) Beginning January 1, 2022, an owner or operator of a facility with a chromate spraying operation shall ensure that when a HEPA vacuum is used:
  - (A) The HEPA filter is free of leaks, breaks, tears, or other types of damage, and securely latched and properly situated in the vacuum to prevent air leakage from the filtration system; and
  - (B) The HEPA vacuum is emptied into a container within a spray booth that meets the provisions of subparagraph (d)(1)(A). The container shall remain closed except when being filled or emptied.

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

- Immediately place waste materials that may contain chromates into closed containers
- Specifies minimum standards for HEPA Vacuum if used as an approved cleaning method
- HEPA vacuum must be emptied within a spray booth

# Best Management Practices (j)(1)(A) & (j)(1)(B) – Chromate Spraying Operations



## (1) Chromate Spraying Operations

An owner or operator of a facility with a chromate spraying operation shall:

- (A) Keep ingresses and egresses of an enclosed spray booth closed while conducting spraying operations; and
- (B) Beginning July 1, 2022, not operate a spray booth unless a system is used to ensure that the air pollution control system for the spray booth is operating while the chromate spraying equipment is being used.

- Close doors of enclosed booths while spraying
- By July 1, 2022, use a system to ensure air pollution control system is operating while spraying

# Best Management Practices (j)(2) – Spray Booth Operations

(d)(7)(A)

An owner or operator of a facility with a chromate spraying operation shall:

(A) When removing protective floor, wall, or exhaust coverings within the spray booth:

- (i) Operate the air pollution control system;
- (ii) Ensure that the ingresses and egresses of an enclosed spray booth are closed; and
- (iii) Place all material that may contain chromates that are intended to be disposed of in a container before removal from the spray booth. The container shall remain closed except when being filled or emptied.

(d)(1)(C)

(B) Operate the air pollution control system for a minimum of three air exchanges within the spray booth or five minutes, whichever is longer:

- (i) After spraying operations have ceased;
- (ii) After conducting dried chromate coating removal activities within the spray booth; and
- (iii) After removing protective floor, wall, or exhaust coverings within the spray booth;

(d)(7)(B)

(C) Post on the spray booth, in a location that is clearly visible and accessible to the spray booth operator, the minimum ventilation time needed to meet the requirements of subparagraph (j)(2)(B); and

(D) Not operate the air pollution control system when the HEPA filters are being removed, replaced or are missing.



- Existing protective cover replacement procedures maintained
  - Amended requirements for collected materials: place materials in a closed container (may include a closed bag) before removing from spray booth
- Modified time to operate air pollution control system after spraying operations cease from 3 air exchanges or 5 minutes to 5 minutes, or 3 air exchanges, whichever is longer
  - Added requirements for dried coating removal, protective cover removal
- Added requirement to post minimum ventilation time in an accessible and visible location
- Modified requirement to not operate ventilation system without HEPA filters in place

# Best Management Practices (j)(3) – Transfer Efficiency

(d)(2)

## (3) Transfer Efficiency

An owner or operator of a facility with a chromate spraying operation shall not spray chromate coatings unless the chromate coatings are applied according to operating procedures specified by the equipment manufacturer, or applicable permit conditions, and by use of one of the following methods:

- (A) High-Volume, Low-Pressure Spray;
- (B) Electrostatic Application; or
- (C) Such other alternative application methods as are demonstrated to the Executive Officer in accordance with the South Coast AQMD method (Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989), or subsequent revisions to be capable of achieving at least equivalent transfer efficiency to the method in subparagraph (j)(3)(A) and for which written approval of the Executive Officer has been obtained.

(i)(2)

- Existing coating application transfer efficiency requirements maintained
- Moved non-spraying application methods to Exemptions, subdivision (p)
- Reference to Spray Equipment Test Procedure moved from existing Subdivision (i)

# Best Management Practices (j)(4) and (j)(5) – Dried Coating Removal and Demasking Activities

## (4) Dried Chromate Coating Removal Activities

An owner or operator of a facility with a chromate spraying operation that conducts any dried chromate coating removal activity in an enclosed spray booth shall keep ingresses and egresses of the spray booth closed and operate the air pollution control system for the spray booth pursuant to the spray booth requirements in paragraph (d)(3), the capture efficiency requirements in subdivision (g), and the pressure drop across the filter media requirements in subdivision (k), while conducting dried chromate coating removal activities.

## (5) Demasking Activities

Beginning July 1, 2021, an owner or operator of a facility with a chromate spraying operation conducting any demasking activity outside of an enclosed spray booth or a permanent total enclosure shall not use compressed air to clean workpieces on tables or other surface areas where demasking activity occurs.



- Keep doors closed when conducting dried coating removal in enclosed booths
- Beginning July 1, 2021, do not operate fans or use compressed air in demasking areas to avoid generation of fugitive dust

# Best Management Practices (j)(6) and (j)(7) – Workpiece Support Equipment



- (6) Workpiece Support Equipment Used During Chromate Spraying Operations  
Beginning July 1, 2021, an owner or operator of a facility with a chromate spraying operation that moves workpiece support equipment outside of a spray booth or permanent total enclosure shall:
- (A) Establish and clearly mark transit paths outside of the spray booth or permanent total enclosure; and
  - (B) Transport equipment within established transit paths.



- (7) Storage of Workpiece Support Equipment Used During Chromate Spraying Operations  
Beginning July 1, 2021, an owner or operator of a facility with a chromate spraying operation that stores workpiece support equipment outside of a spray booth or permanent total enclosure shall:
- (A) Establish and clearly mark storage areas used to store workpiece support equipment; and
  - (B) Store workpiece support equipment within established storage areas.

- Beginning July 1, 2021, transport and store workpiece support equipment in designated areas
- Housekeeping provisions, subparagraphs (i)(2)(A) and (B), require minimum weekly cleaning of transit paths and workpiece support storage areas

# Best Management Practices (j)(8) & (j)(9) – Visual Inspections & Personal Protective Equipment

## (8) Visual Inspections

(k)(1)

An owner or operator of a facility with a chromate spraying operation shall perform a weekly visual inspection of the filter media subject to this rule for leaks, breaks, tears, and improper seating.

## (9) Personal Protective Equipment

An owner or operator of a chromate spraying operation shall remove personal protective equipment in a manner that minimizes fugitive emissions.



- Incorporates existing provision for weekly visual inspections
- Visual inspections do not require filter removal
- New requirement to minimize fugitive emissions when removing personal protective equipment

# Pressure Drop Across Filter Media (k)(1) – Pressure Gauge for Final Stage Filters and Maximum Pressure Drop

## (k) Pressure Drop Across Filter Media

(1) Beginning January 1, 2023, an owner or operator of a facility with a chromate spraying operation shall:

- (A) Install a pressure gauge to continuously monitor the pressure drop across the spray booth final stage filter media; and
- (B) Maintain the pressure drop across the spray booth final stage filter media at or below the maximum pressure drop specified in a South Coast AQMD permit or the filter manufacturer's recommended maximum pressure drop, whichever is lower.



- On and after January 1, 2023, facilities must have gauge for final stage filter and operate at or below maximum pressure drop in South Coast AQMD permit or per manufacturer's recommendations, whichever is lower

# Pressure Drop Across Filter Media

## (k)(2) and Table 4 – Minimum Pressure Drop for Final Stage Filters

(k) (2) An owner or operator of a facility with a chromate spraying operation shall maintain the pressure drop across the spray booth final stage filter media at or above the minimum pressure drop pursuant to Table 4 – Minimum Pressure Drop Across Final Stage Filters.

**Table 4 – Minimum Pressure Drop Across Final Stage Filters**

Availability of Minimum Pressure Drop Information	Minimum Pressure Drop Requirement	Effective Date
Specified in a South Coast AQMD permit	Specified in a South Coast AQMD permit	[Date of Rule Adoption]
Not specified in South Coast AQMD permit	Measure pressure drop to the nearest tenth of an inch of water column to establish the minimum pressure drop across existing final stage filter media in place before January 1, 2023	January 1, 2023 until new final stage filter media replacement
	Measure pressure drop to the nearest tenth of an inch of water column to establish the minimum pressure drop across new final stage filter media replaced after January 1, 2023	At time of new final stage filter media installation

- Beginning January 1, 2023, if not specified on a South Coast AQMD permit, must maintain pressure drop across final stage filters above a minimum pressure drop
- Minimum pressure drop is established by:
  - Permit conditions, or
  - Reading of existing filters in place before January 1, 2023, or
  - Through initial measurements of new final stage filters

# Pressure Drop Across Filter Media

## (k)(3) and (k)(4) – Prohibition on Operation and Filter Specifications

(k)(2)



- (k) (3) An owner or operator of a facility with a chromate spraying operation shall not operate a spray booth:
- (A) Before January 1, 2023 if the pressure drop across the filter media is above the maximum limits specified in paragraph (o)(3); and
  - (B) Beginning January 1, 2023, if the pressure drop across the final stage filter media is above the maximum limits specified in subparagraph (k)(1)(B) or below the minimum limits specified in Table 4 – Minimum Pressure Drop Requirements.
- (4) An owner or operator of a facility with a chromate spraying operation shall maintain onsite, and make available to the Executive Officer upon request:
- (A) The filter technical specification sheets for all spray booth final stage filter media installed in a spray booth subject to this rule; and
  - (B) Any minimum pressure drop established in accordance with Table 4 – Minimum Pressure Drop Requirements.

- Current Rule 1469.1 pressure drop requirements apply across air pollution control equipment filter media
  - This is maintained as an interim requirement in paragraph (o)(2) before January 1, 2023
- Beginning January 1, 2023, minimum and maximum pressure drop limits apply to final stage filters
  - Cease operations if pressure drop is outside of acceptable limits
- Maintain filter specifications or other information used to establish minimum pressure drop onsite

# Pressure Drop Across Filter Media (k)(5) and (k)(6) – Measuring the Pressure Drop

(j)(2)(D)



- (5) An owner or operator of a facility with a chromate spraying operation shall record the pressure drop as measured by the gauge required in subparagraph (k)(1)(A) or paragraph (o)(3) at least once on days when a chromate spraying operation or dried chromate coating removal activity is conducted within the spray booth.
- (6) An owner or operator of a facility with a chromate spraying operation that elects to use a continuous data acquisition system (DAS) in lieu of recording the final filter pressure drop required by paragraph (k)(5) shall ensure the DAS is installed, operated, and maintained in accordance with manufacturer's specifications. The DAS shall:
- (A) Record the data output from the gauge required in paragraph (k)(1)(A) at a frequency of not less than once every sixty (60) minutes on days when a chromate spraying operation or dried chromate coating removal activity is conducted within the spray booth;
  - (B) Generate a data file on days when a chromate spraying operation or dried chromate coating removal activity is conducted within the spray booth, saved in an electronic spreadsheet format or other format approved by the Executive Officer. The file shall contain a table of chronological date and time and the corresponding data output value from the gauge required in paragraph (k)(1)(A) in inches of water column; and
  - (C) Have an audible alarm that alerts when the pressure drop is above the maximum limit specified in subparagraph (k)(1)(B) or below the minimum limit specified in paragraph (k)(2).

## Two options to measure pressure drop

- Manually, on each day spray booth is used; or
- Using a continuous data acquisition system (DAS) with alarm
  - Recordings every 60 minutes on days spray booth is used
  - Alarm system is to notify operator if pressure drop is outside acceptable range and only required if DAS option is selected



# Spray Booth Exhaust Duct Cleaning - (I)

- (1) When replacing the final stage filter media, an owner or operator of a facility with a chromate coating spraying operation shall conduct a visual inspection of the spray booth duct immediately downstream of the final stage filter media for the presence of overspray or dried coatings that may contain chromates.
- (2) An owner or operator of a facility with a chromate coating spraying operation that observes overspray or dried coatings that may contain chromates during a visual inspection conducted pursuant to paragraph (1)(1) shall:
  - (A) Clean the spray booth duct to remove all overspray or dried coating that may contain chromium using an approved cleaning method; or
  - (B) Analyze the overspray or dried coating for the presence of hexavalent chromium and if detected, clean the spray booth duct to remove all overspray or dried coating:
    - (i) Within seven days of receiving a positive result for hexavalent chromium; and
    - (ii) Using an approved cleaning method.
- (3) An owner or operator of a facility with a chromate coating spraying operation required to clean a spray booth duct pursuant to paragraph (1)(2) shall notify the Executive Officer at least 72 hours prior to the duct cleaning by calling 1-800-CUT-SMOG.

New provision to inspect exhaust duct when changing final stage filters

- If material that may contain chromates is observed
  - Clean with approved cleaning methods; or
  - Analyze material and if hexavalent chromium detected, clean with approved cleaning methods
- Notify Executive Officer at least 72 hours before conducting cleaning

# Recordkeeping Requirements (m)(1) – Coatings Usage Records

(j)(1)

## (1) Coatings Usage Records

An owner or operator of a facility with a chromate spraying operation shall maintain:

- (A) Purchase records of chromate coatings used for spray coating operations;
- (B) Safety Data Sheets provided for the materials subject to the requirements of subparagraph (m)(1)(A) that indicate the weight percent of chromate(s) in the coating, and the density of the coating;
- (C) Daily usage records for each coating subject to subparagraph (m)(1)(A), applied or used daily; and
- (D) Application method for each coating used.

- Maintain existing coatings recordkeeping requirements
  - Purchase records
  - Safety Data Sheets
  - Daily usage records
  - Application method

# Recordkeeping Requirements (m)(2) – Housekeeping and Best Management Practice Records

## (2) Housekeeping and Best Management Practice Records

An owner or operator of a facility with a chromate spraying operation shall:

(j)(1)

- (A) Maintain records demonstrating compliance with housekeeping requirements specified in subdivision (i) and paragraph (o)(2) and the best management practices specified in paragraphs (j)(1) through (j)(7); and
- (B) Maintain records of the visual inspections required by paragraph (j)(8), including:
  - (i) Name of the person(s) performing the visual inspection for each spray booth or other control device;
  - (ii) Identification of each spray booth, including the Permit Number or Device Identification Number;
  - (iii) Date and time of the visual inspection;
  - (iv) Documentation of filter media found to have any leaks, breaks, or tears, or found to be improperly installed; and
  - (v) Description of any maintenance and repair activities conducted for any spray booth or other control device.

- Clarify housekeeping recordkeeping requirements and add BMP recordkeeping
  - Consistent with requirements in recent toxic metal particulate rules
- Additional information required for visual inspection records

# Recordkeeping Requirements (m)(3)(A) & (m)(3)(B) – Monitoring Records



## (3) Monitoring Records

An owner or operator of a facility with a chromate spraying operation shall:

- (A) Maintain records of demonstrations of spray booth capture efficiency required by paragraph (g)(1) including:
  - (i) Name of the person(s) conducting the demonstrations;
  - (ii) Identification of each spray booth, including the Permit Number or Device Identification Number;
  - (iii) Date and time the demonstrations were conducted;
  - (iv) Description of the equipment used to conduct the demonstration;
  - (v) Calibration records for the equipment used to conduct the demonstration;
  - (vi) Results of the demonstrations conducted for each spray booth; and
  - (vii) Description of any maintenance and repair activities conducted for each spray booth;
- (B) Maintain records of spray booth pressure drop readings as required in paragraphs (k)(5) and (o)(3), or DAS data files as required in paragraph (k)(6);

- Information necessary to demonstrate compliance with capture efficiency requirements
  - Inward face air velocity measurements
  - Method 204 report
- Facilities must maintain records of pressure drop readings or DAS data files, if using a DAS to monitor pressure drop



# Recordkeeping Requirements (m)(3)(C) & (m)(3)(D)

- (C) Maintain records of spray booth final stage filter media replacement, and established minimum pressure drop as required in paragraph (k)(2); and
- (D) Maintain records of the exhaust duct visual inspections required by paragraph (l)(1) including:
  - (i) Name of the person(s) conducting the visual inspection;
  - (ii) Identification of each spray booth, including the Permit Number or Device Identification Number;
  - (iii) Date and time the visual inspection was conducted; and
  - (iv) A photograph of the spray booth duct taken when the visual inspection was conducted.

- When replacing HEPA filters, maintain records of:
  - The filter replacement
  - Established minimum pressure drop after new filters are in place, if number is not specified in permit
  - Exhaust duct visual inspections, including photographs of the duct

# Recordkeeping Requirements (m)(4) – Records Retention

## (4) Records Retention

(j)(3)

(A) Until the provisions of subparagraph (m)(4)(B) are met, an owner or operator of a facility with a chromate spraying operation shall maintain all records for three years, with at least the two most recent years kept onsite, and made available to the Executive Officer upon request. Records kept offsite shall be made available within one week of the request from the Executive Officer; and

(B) Beginning [Two Years After Date of Rule Adoption], an owner or operator of a facility with a chromate spraying operation shall maintain all records for five years, with at least the two most recent years kept onsite, and made available to the Executive Officer upon request. Records kept offsite shall be made available within one week of the request from the Executive Officer.



- Maintain existing requirement for 3 years of records
  - 2 years onsite and offsite records available within 1 week of request
- Beginning 2 years after rule adoption, records retention increased to 5 years
  - 2 years onsite and offsite records available within 1 week of request



# Prohibitions (n)

## (n) Prohibitions

- (1) Beginning [Date of Rule Adoption], an owner or operator of a facility with a chromate spraying operation shall not install or construct a new open face spray booth for chromate spraying operations unless the open face spray booth is located within a permanent total enclosure that is vented to air pollution control equipment that meets the requirements of subparagraph (d)(1)(A).
- (2) Beginning [Date of Rule Adoption], an owner or operator of a facility with a chromate spraying operation shall not install or construct a new spray booth for chromate spraying operations unless the spray booth is located within a building enclosure.

- As of date of rule adoption, facilities shall not install or construct:
  - New open face booths unless located within PTEs vented to HEPA filters
  - New booths located outside of a building enclosure
- Prohibitions do not apply to existing spray booths

# Interim Requirements (o)

(d)(1)(B)

(1) Before January 1, 2026, an owner or operator with a chromate spraying operation that conducts spraying operations in an open face spray booth shall ensure that the average inward face air velocity in the open face spray booth is maintained at a minimum of 100 feet per minute or other minimum velocity approved by the Executive Officer.

(d)(7)

(2) Before January 1, 2022, an owner or operator with a chromate spraying operation shall conduct spraying and cleanup operations in a manner that minimizes fugitive emissions of atomized paint particles.

(k)(2)

(3) Before January 1, 2023, an owner or operator of a facility with a chromate spraying operation shall install a gauge to continuously monitor the pressure drop across the spray booth filter media in a location that is easily visible and in clear sight of the operation or maintenance personnel. The pressure drop shall be maintained at or below the pressure drop prescribed by a permit condition, or by the manufacturer's recommended operating range if no permit condition limits pressure drop.

- Interim provisions ensure no regulatory gap and avoid backsliding before new provisions are effective
- PAR 1469.1 includes the following delayed implementation dates:
  - Spray Booth Capture Efficiency (g) – 1/1/2026
  - Housekeeping (i) – 1/1/2022
  - Pressure Drop Across Filter Media (k) – 1/1/2023
- Subdivision (o) consolidates existing requirements in Rule 1469.1 that facilities must comply with until the specified implementation dates

# Exemptions (p)

(b)

- (1) The requirements of this rule shall not apply to thermal spraying operations.
- (2) The requirements of subparagraph (d)(1)(A) and paragraph (d)(3) shall not apply to operations where chromate coatings are applied by flow coater, roll coater, dip coater, or hand application methods.



(h)

- (3) The requirements of subparagraph (d)(1)(A) and paragraphs (d)(3) and (j)(3) shall not apply to any touch up and repair operation spraying chromate coatings that is conducted outside of a spray booth, provided the touch up and repair operation is performed inside a building enclosure, and emissions and cancer risk from the touch up and repair operation are calculated and included in an approved facility-wide health risk assessment that limits the cancer risk to 10 in a million.

- Amended exemptions
  - Added thermal spraying exemption to clarify rule applicability
  - Added exemption to control device requirements for non-spraying coating application methods
  - Clarified touch up and repair exemption



# Appendix 1 – Inward Face Air Velocity Measurement Procedures

- Equipment
  - Anemometer: capable of measuring air velocity in feet per minute with an accuracy of within +/- 10% at full scale
- Test Conditions
  - Normal spray booth operating conditions
- Procedures
  - Locations: five-point grid pattern between 6 to 12 inches from filter face or no more than 1 inch inside plane of open filter face
- Reporting
  - Example provided



# Appendix 2 – Compliance Plans for Alternate Point Source Requirements

- Applicable only to facilities with an approved compliance plan

Appendix  
1

- Attachment 1 - Emission Calculation Method

Appendix  
2

- Attachment 2 - Measuring Distance to a Residential or Sensitive Receptor

# Impacted Facilities

# Affected Industries

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- Approximately 115 facilities expected to be impacted by PAR 1469.1
- Facilities conducting chromate spray coating operations are generally classified under the following two-digit North American Industry Classification (NAICS) codes:
  - 31 - 33XXXX - Manufacturing
  - 42XXXX - Wholesale Trade
  - 54XXXX - Professional, Scientific, and Technical Services
  - 81XXXX - Other Services (except Public Administration)
  - 92XXXX - Public Administration

# Scope of Socioeconomic Impact Assessment for PAR 1469.1

# Applicable Legal Requirements for PAR 1469.1

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- California Health and Safety Code Section 40440.8
  - Requires socioeconomic impact assessment for proposed rule or rule amendment which “will significantly affect air quality or emissions limitations”
  - Socioeconomic impact assessment shall consider:
    - 1. Type of affected industries, including small businesses
    - 2. Range of probable costs, including costs to industry or business
    - 3. Impact on employment and regional economy

# Cost Considerations

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- One-time compliance costs
  - Capital costs for air pollution control devices, parameter monitoring devices, spray booth operational equipment, closing building openings (e.g., plastic strip curtains)
- Recurring costs
  - Housekeeping (e.g., cleaning requirements)
  - Best Management Practices (e.g., visual inspections, workpiece support equipment storage)
  - Recordkeeping & Reporting (e.g., recordkeeping for housekeeping and best management practices, parameter monitoring)
- Recurring costs for housekeeping, BMP, parameter monitoring, and recordkeeping/reporting assume additional labor hours with existing workforce
- Staff is looking for input on these and/or other costs

# California Environmental Quality Act

# California Environmental Quality Act (CEQA)

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- PAR 1469.1 does not contain any project elements requiring physical modifications that would cause an adverse effect on the environment
- PAR 1469.1 is exempt from CEQA and a Notice of Exemption will be prepared pursuant to CEQA Guidelines Section 15061(b)(3) which exempts actions where it can be seen with certainty that there is no possibility that the proposed project may have a significant adverse effect on the environment

# Key Dates

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Action	Date
Written Comments Due	March 4, 2021
Stationary Source Committee	March 19, 2021
Set Hearing	April 2, 2021
Public Hearing	May 7, 2021

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