

Working Group Meeting #3

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

**South Coast AQMD
September 23, 2020**

Zoom meeting link:

<https://scaqmd.zoom.us/j/99677899822>

Join via teleconference:

Dial-in Number: (669) 900-6833

Meeting ID: 996 7789 9822

Passcode: 120773



Agenda



Summary of Working Group #2



Response to Comment



Rule Concepts: Housekeeping



Rule Concepts: Best Management Practices



Facility Survey – Initial Responses



Next Steps



Summary of Working Group #2

- Need to address fugitive emissions for PAR 1426
 - Identified four key areas where fugitive emissions are generated
 - Identified effective measures used to reduce fugitive emissions for the four key areas
- Grouped effective measures to reduce fugitive measures into three categories:
 - Housekeeping
 - Best Management Practices
 - Enclosure Requirements
- Rule concepts for the Purpose and Applicability of PAR 1426

Response to Comment





Comment

Use of NESHAPs Plating and Polishing Metal Concentration Limits for PAR 1426

Staff Response:

- Staff reviewed National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Plating and Polishing Operations known as WWWW, which includes management practices to address fugitive emissions
- NESHAP subpart WWWW specifies that standards do not apply for any process or operations with less than 0.1% WT (1,000 ppm) for chromium, cadmium, lead, or nickel
- Staff will consider minimum concentration threshold for proposed requirements for PAR 1426

Overview of Rule Concepts to Address Fugitive Emissions

Overview of Categories to Address Fugitive Emissions



Housekeeping
Requirements



Best
Management
Practices



Building
Enclosure
Requirements

Today's Working Group

Next Working Group

Rule Concepts: Housekeeping



Housekeeping – Background



- Housekeeping measures include using approved cleaning methods to remove materials to reduce the accumulation of fugitive dust and remove liquids containing metals that can dry and be a source of fugitive dust
- Housekeeping measures are generally performed near and around processing areas and where liquids containing metals or materials can be tracked outside of the building from foot traffic or equipment
- Housekeeping measures that are performed on a routine basis are effective measures to minimize the accumulation of metal dust
- Staff will provide an overview of:
 - Current Rule 1426 housekeeping requirements
 - Enhancements to existing housekeeping requirements to minimize fugitive emissions



Housekeeping – Existing Rule 1426

- Does not include chromium
- No provisions for spills or overspray of tank solution
- References cleaning storage area only and does not include metal finishing operations
- Non-specific requirements for waste handling and storage

(5) Housekeeping Practices for Nickel, Cadmium, Lead and Copper

On and after July 1, 2003 housekeeping practices shall be implemented at a facility to reduce fugitive emissions caused by the storage, handling and transport of nickel, cadmium, lead or copper in powder or metal salt form. These practices shall include:

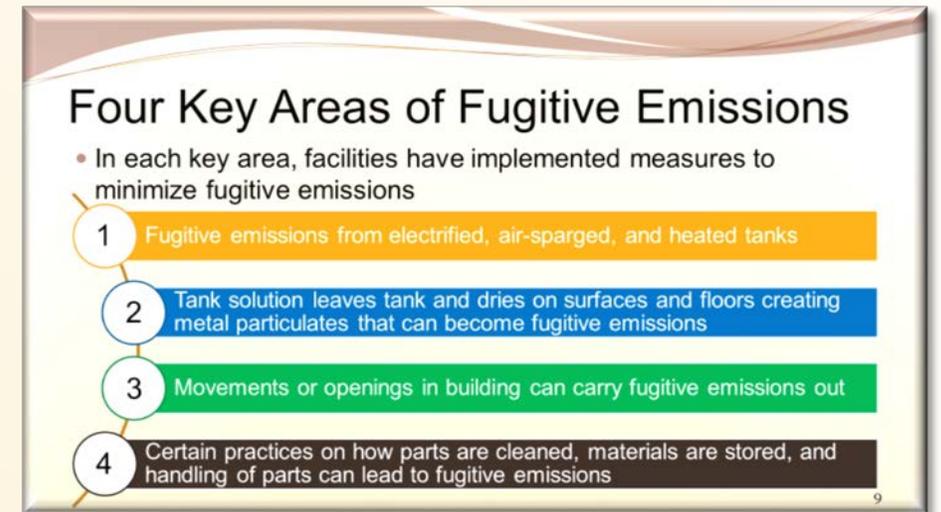
- (A) Nickel, cadmium, lead and copper in powder or metal salt form shall be stored in a closed container in an enclosed storage area;
- (B) Nickel, cadmium, lead and copper in powder or metal salt form shall be transported from an enclosed storage area to electroplating tanks in a closed container;
- (C) Surfaces within the enclosed storage area that accumulate dust shall be washed down, vacuumed, or wet mopped, or shall be maintained with the use of non-toxic chemical dust suppressants; and
- (D) Wastes which contain nickel, cadmium, lead or copper generated from housekeeping activities shall be stored, disposed of, recovered, or recycled using practices that do not lead to fugitive dust.

Existing rule requirements are insufficient and need to be amended

Similarities of Rule 1469 and PAR 1426 Facilities



- Rule 1469 and PAR 1426 apply to metal finishing operations
- Operations at these facilities have similar operations with tanks containing metals in the solutions
- Recent amendments to Rule 1469 incorporated enhanced housekeeping requirements to minimize fugitive emissions from the four key areas discussed in the previous Working Group Meeting

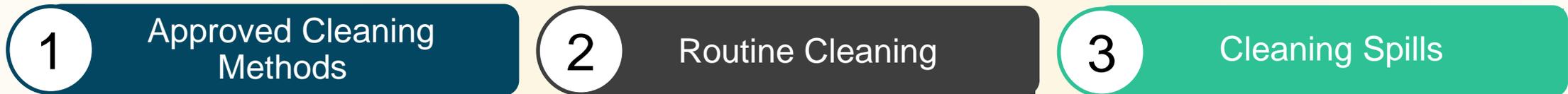


Housekeeping Rule Concepts

– Based on Rule 1469



- Proposed housekeeping provisions are based on the recent amendments to Rule 1469
- Proposed housekeeping concepts are presented in the following three categories:



- Discussion for each category will include background and initial recommendations based on Rule 1469 provisions

Comparison of Housekeeping Provisions of Rule 1426 and Rule 1469



Category	Rule 1469 Anodizing and Plating (Hexavalent Chromium)	Rule 1426 Metal Finishing Operations (Multiple Metals)
Approved Cleaning Methods	Yes	No
Routine Cleaning	Yes	No
Cleaning Spills	Yes	No

- Rule 1469 currently has enhanced housekeeping requirements that specify:
 - Approved cleaning methods for routine cleaning and spills
 - Frequency and areas for routine cleaning
 - Procedures for spills
- PAR 1426 will incorporate these three categories

Three Main Categories for Housekeeping Provisions



1 Approved Cleaning Methods

- Specifies the approved cleaning techniques allowed to ensure housekeeping measure does not become a source of fugitive emissions

2 Routine Cleaning

- Specifies the location and frequency for each housekeeping measure

3 Cleaning Spills

- Specifies the timeframe and the type of spills that must be cleaned up



1 Approved Cleaning Methods – Background

- Rule 1469 requires the use of approved cleaning methods to prevent the generation of fugitive emissions
- Dry cleaning methods and improper equipment can cause fugitive emissions
- Approved cleaning methods are generally comprised of wet cleaning methods and HEPA vacuuming
 - Wet cleaning methods use wet sweeping or a wet mop that keeps metal particulate dust from becoming fugitive
 - HEPA vacuum equipment is a vacuum designed and fitted with HEPA filter(s) that are individually (dioctyl phthalate or equivalent) certified by manufacturer achieve a control efficiency of not less than 99.97% on 0.3 micron particles





1 Approved Cleaning Methods – Initial Recommendations

- Require the use of approved cleaning methods while conducting routine cleaning and clean-up of spills
- Approved cleaning methods include:
 - Wet mop
 - Damp cloth
 - Wet wash
 - HEPA vacuuming
 - Low pressure water spray nozzle
- Cleaning equipment such as wet mops and wet cloths that may contain tank solution with PAR 1426 metals should be stored in closed containers or enclosures while not in use or until they are disposed of offsite





2 Routine Cleaning – Background

Source Accumulation of liquids or solids from tank solutions can occur throughout the facility



Fugitive Emissions Tank solutions can generate fugitive emissions when:

- Solutions leave tanks and dry on surfaces
- Waste or materials with particulates stored in open containers and open areas
- Solutions or particulates on floors are tracked out by workers and equipment or carried out by cross drafts



Routine Cleaning Cleaning liquids and solids prevent the formation of metal particulates that can be carried out of the building by cross drafts or tracked out by workers and equipment as fugitive emissions



2 Routine Cleaning – Other Metal Particulate Rules

- Routine cleaning at regular intervals of areas where liquids or solids accumulate can minimize fugitive emissions
- Rule 1469 specifies the areas and frequency for routine cleaning
 - Areas include surfaces that are potentially contaminated or accumulated dust
 - Housekeeping measure must be conducted weekly
- The following slide lists the PAR 1426 recommended areas and frequency for routine cleaning



2 Routine Cleaning – Initial Recommendations

Weekly Cleaning Within 15 Feet



Process tanks with metal TACs



Storage areas for equipment and chemicals



Waste processing or storage areas



Cleaning equipment storage area

Daily Cleaning Within 20 Feet



Buffing, grinding, and polishing workstations



3 Cleaning Spills – Background and Initial Recommendation

- Rule 1469 requires that spills be cleaned immediately and no later than one hour after being spilled
- Initial recommendation
 - Clean up spills that may contain PAR 1426 metals within one hour
 - Provision ensures that spills containing PAR 1426 metals do not dry and become a source of fugitive emissions

Rule Concepts: Best Management Practices



Best Management Practices (BMPs) – Background



- BMPs are generally preventative measures that can minimize generation of fugitive emissions
- Most BMPs are based on the good practices observed at metal finishing facilities
- Incorporating BMPs into daily operations can help to further minimize fugitive emissions
- In general, BMPs include practices that:
 - Reduce tank solutions leaving tank
 - Return tank solutions back into tanks
 - Reduce generation of emissions when tanks are not operating
 - Reduce air currents near tanks or waste



BMP Rule Concepts – Based on Rule 1469

- Due to similarities between Rule 1469 facilities and PAR 1426 facilities, BMP concepts are based on the recent amendments to Rule 1469
- BMP concepts are grouped into the following four categories:

1 Tank Solution Containment

3 Transport and Storage

2 Tank Labeling Practices

4 Prohibitions

- Discussion of each category will include background and initial recommendations based on Rule 1469 provisions

Comparison of BMP Provisions of Rule 1426 and Rule 1469



Category	Rule 1469 Anodizing and Plating (Hexavalent Chromium)	Rule 1426 Metal Finishing Operations (Multiple Metals)
Tank Solution Containment	Yes	No
Tank Labeling Practices	Yes	No
Transport and Storage	Yes	Yes
Prohibitions	Yes	No

- Rule 1426 currently has one BMP requirement for transport and storage of the chemicals used to make up the tank solutions
- Rule 1469 requirements for BMP include:
 - Containment of tank solutions to minimize accumulation of liquids outside the tanks
 - Labeling tanks with tank contents and key operating parameters
 - Transport and storage of materials
 - Prohibiting specific activities prone to generating fugitive emissions
- PAR 1426 will incorporate these four categories



Four Main Categories of BMP Provisions

1 Tank Solution Containment

- Specifies provisions to prevent dragout and overspray or to redirect liquids back to the tank to minimize accumulation of liquid with PAR 1426 metals that can dry out and become fugitive emissions

2 Tank Labeling Practices

- Requires labeling of tanks with the chemical contents and key operating parameters to ensure operators are aware of permitted operating parameters

3 Storage and Transport

- Specifies practices to store and handle materials to minimize the generation of fugitive emissions

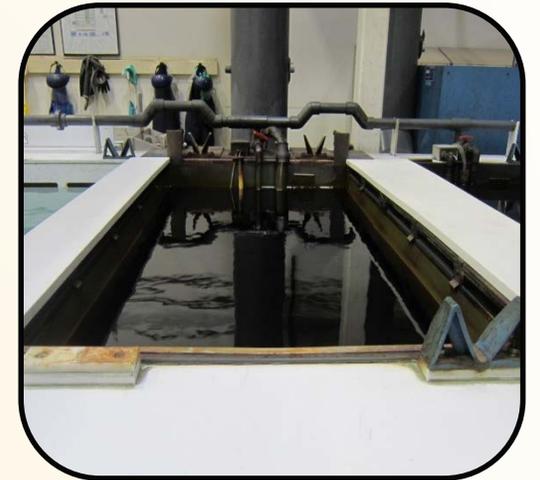
4 Prohibitions

- Identifies practices that are prohibited that are known to generate fugitive emissions



1 Tank Solution Containment – Dragout

- Dragout is when the liquid that contains metal toxic air contaminants drips from a part or equipment when it is removed from the tank
- Capturing dragout from parts or equipment so it does not fall to the floor can help to minimize fugitive emissions
- Rule 1469 has provisions to prevent accumulation of liquids on floors and surfaces from dragout by requiring:
 - Installation of drip trays or containment devices between tanks;
 - Liquid in trays or containment devices be returned back to the tank;
 - and
 - Cleaning of trays or containment devices such that there is no accumulation of visible dust or residue
- PAR 1426 would incorporate provisions from Rule 1469





1 Tank Solution Containment – Overspray

- Overspray is any fluid that is deflected off parts or equipment due to spray rinsing operations
- Rule 1469 requires when operators are spray rinsing parts or equipment that:
 - A splash guard is installed to minimize overspray where the splash guard is cleaned weekly;
 - The parts or equipment are fully lowered inside a tank when spray rinsing; or
 - A low-pressure spray nozzle is used where water flows off the part or equipment into the tank
- PAR 1426 would incorporate provisions from Rule 1469





2 Tank Labeling Practices – Background and Initial Recommendations

Background

- Rule 1469 requires the labeling of tanks within the tank process area with operating information
- Labels provide a reference of parameters to identify a tank and operating conditions
- Informative to the operator and South Coast AQMD Inspectors

Initial Recommendations

- Label tanks within the tank process area with the following:
 - South Coast AQMD permit number
 - Tank name and number
 - Bath contents
 - Maximum concentrations
 - Electrolytic
 - Temperature range
 - Agitation methods





3 Storage and Transport – Background

- Using closed containers to store and transport materials that may contain metal dust can minimize generation of fugitive emissions
- Rule 1469 has provisions to prevent the spread and entrainment of metal particulates during storage and transport
 - Transport chromic acid powder or flakes from enclosed storage area to chromium tank in a closed container
 - Store substances that may contain hexavalent chromium in closed container in an enclosed storage area when not in use
 - Store chromium wastes in closed containers at all times, except when being filled or emptied



3 Storage and Transport – Initial Recommendations

- Store and transport materials or equipment that may be contaminated with PAR 1426 metals in closed containers and/or enclosed storage area
- Examples of materials:
 - Bath reagents
 - Spent filters
 - Dry sludge
 - Other housekeeping wastes (e.g. rags)
- Examples of equipment:
 - Reusable tank covers
 - Reusable cleaning equipment
 - Hangers, anodes, and cathodes





4 Prohibitions – Background

- Prohibitory BMPs are specific operating conditions that can be eliminated completely or during specific times that can prevent or reduce fugitive emissions
- Rule 1469 includes the following prohibitions:
 - Prohibits fabric flooring within 15 feet of chromium tanks
 - Prohibits compressed air cleaning and drying operations within 15 feet of chromium tanks or have the cleaning and drying operations
 - Separated by a barrier from chromium tanks; or
 - Conducted in a permanent total enclosure



4 Prohibitions – Background (*Continued*)

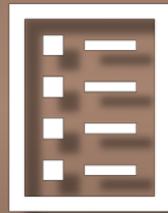
- Rule 1469 prohibitions (*Continued*)
 - Prohibits air sparging a hexavalent chromium electroplating or chromic acid anodizing tank when
 - Electroplating or anodizing is not occurring; or
 - While chromic acid powder is being added
 - Prohibits buffing, grinding, or polishing unless separated by a barrier from the metal finishing tank operations to prevent the migration of dust



4 Prohibitions – Initial Recommendations

- Incorporate Rule 1469 prohibition provisions for
 - Fabric flooring;
 - Compressed air cleaning and drying; and
 - Buffing, grinding, or polishing operations
- Expand existing provision under Rule 1426 to prohibit air-sparging when metal finishing activities in the tank are not occurring
- Add prohibition for heating tanks above 140°F when not conducting metal finishing tank operations, unless the tank is vented to an air pollution control device or covered

Facility Survey – Initial Responses





Initial responses from facility surveys

- Approximately 350 potential PAR 1426 facilities
- Facility survey distributed July 10, 2020 with July 31, 2020 deadline
- Deadline extended to August 14, 2020 to allow more time for facilities to complete survey
- Some facilities contacted staff requesting additional time to submit survey
- Received 38 surveys

Version 7/08/2020

Rule 1426 Survey Form

A. Facility Information

A1. Facility ID	A2. Facility Name			
A3. Facility Contact	A4. Title			
A5. Phone #	A6. Email			
A7. Street Address	A8. City	A9. Zip Code		
A10. Mailing Address	<input type="checkbox"/> Same as above or specify:		A11. City	A12. Zip Code
A13. Industries Served	<input type="checkbox"/> Aerospace <input type="checkbox"/> Military	A14. Physical Size of Property (square feet)		
A15. Operating Schedule* (e.g., 8 hr/day, 5 days/week)	A16. # Of Shifts*	A17. # of Employees at the Facility*		
A18. Of all employees, what percentage work on part-time basis (less than 35 hours per week)?* _____%				
A19. Do you claim trade secret of data? (If Yes, see instructions below)				
<small>Under the California Public Records Act, disclosures are generally public records and may be disclosed to a third party, except certain limited information are exempt from disclosure because it qualifies as a trade secret, as explained in the District's Guidelines for implementing the California Public Records Act. You must make such claim at the time of submission to the District. Check "Yes" if you claim that this form or its attachments contain trade secret information.</small>				
* Pre COVID-19 conditions				

B. Tank Process Area

B1. What material is used for walkways around tanks? (e.g., wood, steel, concrete, other [specify])	<input type="checkbox"/> YES <input type="checkbox"/> NO	Frequency drained:
B2. Does the walkway collect liquid (e.g., sumps)? If yes, how often is it drained?	<input type="checkbox"/> YES <input type="checkbox"/> NO	
B3. Is the plating line automatic or manual?	<input type="checkbox"/> Automatic <input type="checkbox"/> Manual <input type="checkbox"/> Combination	
B4. Are treated parts transferred to other tanks not immediately adjacent to each other? If so, what method is used to capture drag out during transfer?	<input type="checkbox"/> Cart <input type="checkbox"/> Rack <input type="checkbox"/> Hoist <input type="checkbox"/> Drip Trays <input type="checkbox"/> Other	
B5. Describe how treated parts are rinsed? (Check all that apply)	<input type="checkbox"/> Rinse Tank <input type="checkbox"/> Spraying <input type="checkbox"/> Spraying with splash guards <input type="checkbox"/> Other	



Next Steps

- Present rule concepts
 - Enclosure Requirements
 - Recordkeeping
 - Exemptions
- Proposed rule language
 - Purpose
 - Applicability
 - Definitions
- Update on facility survey responses

PAR 1426 Staff Contacts

Min Sue

(909) 396-3241

msue@aqmd.gov

Neil Fujiwara

(909) 396-3512

nfujiwara@aqmd.gov

Jillian Wong

(909) 396-3176

jwong1@aqmd.gov

Susan Nakamura

(909) 396-3105

snakamura@aqmd.gov