CHROME PLATING OR CHROMIC ACID ANODIZING SUMMARY

Applicants must FILL OUT THIS FORM COMPLETELY for all chrome plating and chromic acid anodizing facilities and submit it with the permit application packet (Form APCD-1). The District will deem your application incomplete for failure to respond to items listed on this form. When neeeded, use separate sheets.

The following data must be submitted with an application for a chrome plating or chromic acid anodizing facility:

1. A plot plan showing the location of the chrome plating facility and chromic acid anodizing facility. This should show the building name/number, room numbers and names of the departments for the equipment.

2. A process flow diagram and process description of the ch rome plating facility and chromic acid anodizing facility.

3. Descriptions of the objects anodized and plated and the thicknesses (microns) of the objects' chrome layers.

4. The maximum and average number of objects anodized and plated in parts per hour and parts per year.

5. The maximum sizes (capacities and dimensions) of the tanks and number of tanks that may be used for anodizing and chrome plating at one time.

6. An estimate of the number of ampere-hours per year for each tank.

7. An estimate of chromium emissions for each tank in units of pounds per year. Include documentation supporting the emission estimates. If you do not have source specific manufacturer's emission data or test data, the District recommends the following emission factors and calculation method:

EMISSIONS FACTORS FOR PLATING AND ANODIZING EMISSIONS [1]
(mg/amp-hour)

	Uncontrolled	Controlled scrubbed	Controlled foam [2]
Hard plating anodizing	5.20	1.30	0.26 0
Decorative plating	0.50	0.13	0.025

General equation :

E_{annual} = AHPY x EF x 2.205 x 10-6 lb/mg

where:

E_{annual} = The annual emissions in pounds per year
AHPY = amp-hours per year (should be derived from meter)
EF = Emission factor (from table, source testing or manufacturer)

Hypothetical example calculation :

Basis:

1. The hard plating equipment is uncontrolled; EF = 5.2 mg/amp-hour

2. 100,000 amp-hours use d by the equipment during 1988; AHPY = 100,000 amp-hour/year

E_{annual} = AHPY x EF x 2.205 x 10^{-6} lb/mg

= 100,000 amp-hour/year x 5.2 mg/amp-hour x 2.205 x 10^{-6} lb/mg

= 1.1466 lb/yr

8. An estimate of the emission factor for each tank in units of milligrams of chromium per ampere-hour of electrical charge applied to the plating tank. Include documentation supporting the emission factors (e.g., manufacturer's data, source test report).

9. A description and drawing of the emissions collection system(s). Include the hood's make, model, type (e.g., canopy or enclosing), dimensions and the exhaust fan's horsepower rating.

[1]From the California Air Resources Board Technical Support Document to Proposed Airborne Toxic Control Measure for Emissions of Hexavalent Chromium From Chrome Plating and Chromic Acid Anodizing Operations, January 4, 1988.

[2]Foam or foam plus scrubber.

10. An analysis showing that the hood's ventilation rate(s) comply with the guidelines shown in Chapter 3 (Design of Local Exhaust Systems) of the Air Pollution Control Engineering Manual (AP-40). Attachment A provides copies of pages 32, 33 and 34 from AP-40. These pages show the guidelines for proper hood ventilation rates for open-surface tanks. If the equipment is used in areas where there are drafts, mention this and whether the system has sufficiently effective baffles.

11. A description of any emission control equipment and its efficiency rating.

12. For hard chrome plating and chromic acid anodizing, the make and model number of the continuous recording ampere-hour meter(s). Rule 334 requires that, after 11 September 1989, no person operate the equipment unless a continuous recording ampere-hour meter is installed and operated on the electrical power lines connected to each tank or group of tanks served by an emission collection system. If this meter is not installed, please indicate the anticipated date for installation. If this meter is installed, please provide copies of the records for the last two months.