

Packed-bed scrubber means an add-on air pollution control device consisting of a single or double packed bed that contains packing media on which the chromic acid droplets impinge. The packed-bed section of the scrubber is followed by a mist eliminator to remove any water entrained from the packed-bed section.

Research or laboratory operation means an operation whose primary purpose is for research and development of new processes and products, that is conducted under the close supervision of technically trained personnel, and that is not involved in the manufacture of products for commercial sale in commerce, except in a de minimis manner.

Small, hard chromium electroplating facility means a facility that performs hard chromium electroplating and has a maximum cumulative potential rectifier capacity less than 60 million amp-hr/yr.

Stalagmometer means a device used to measure the surface tension of a solution.

Surface tension means the property, due to molecular forces, that exists in the surface film of all liquids and tends to prevent liquid from spreading.

Tank operation means the time in which current and/or voltage is being applied to a chromium electroplating tank or a chromium anodizing tank.

Tensiometer means a device used to measure the surface tension of a solution.

Trivalent chromium means the form of chromium in a valence state of +3.

Trivalent chromium process means the process used for electrodeposition of a thin layer of chromium onto a base material using a trivalent chromium solution instead of a chromic acid solution.

Wetting agent means the type of chemical fume suppressant that reduces the surface tension of a liquid.

(b) *Nomenclature*. The nomenclature used in this subpart has the following meaning:

(1) AMR=the allowable mass emission rate from each type of affected source subject to the same emission limitation in milligrams per hour (mg/hr).

(2) AMR_{sys}=the allowable mass emission rate from affected sources controlled by an add-on air pollution con-

trol device controlling emissions from multiple sources in mg/hr.

(3) EL=the applicable emission limitation from §63.342 in milligrams per dry standard cubic meter (mg/dscm).

(4) IA_{total}=the sum of all inlet duct areas from both affected and non-affected sources in meters squared.

(5) IDA_i=the total inlet area for all ducts associated with affected sources in meters squared.

(6) IDA_{i,a}=the total inlet duct area for all ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation in meters squared.

(7) VR=the total of ventilation rates for each type of affected source subject to the same emission limitation in dry standard cubic meters per minute (dscm/min).

(8) VR_{inlet}=the total ventilation rate from all inlet ducts associated with affected sources in dscm/min.

(9) VR_{inlet,a}=the total ventilation rate from all inlet ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation in dscm/min.

(10) VR_{tot}=the average total ventilation rate for the three test runs as determined at the outlet by means of the Method 306 in appendix A of this part testing in dscm/min.

§ 63.342 Standards.

(a) Each owner or operator of an affected source subject to the provisions of this subpart shall comply with these requirements on and after the compliance dates specified in §63.343(a). All affected sources are regulated by applying maximum achievable control technology.

(b) *Applicability of emission limits*. (1) The emission limitations in this section apply only during tank operation, and also apply during periods of start-up and shutdown as these are routine occurrences for affected sources subject to this subpart. The emission limitations do not apply during periods of malfunction, but the work practice standards that address operation and maintenance and that are required by paragraph (f) of this section must be followed during malfunctions.

(2) If an owner or operator is controlling a group of tanks with a common add-on air pollution control device, the emission limitations of paragraphs (c), (d), and (e) of this section apply whenever any one affected source is operated. The emission limitation that applies to the group of affected sources is:

(i) The emission limitation identified in paragraphs (c), (d), and (e) of this section if the affected sources are performing the same type of operation (e.g., hard chromium electroplating), are subject to the same emission limitation, and are not controlled by an add-on air pollution control device also controlling nonaffected sources;

(ii) The emission limitation calculated according to §63.344(e)(3) if affected sources are performing the same type of operation, are subject to the same emission limitation, and are controlled with an add-on air pollution control device that is also controlling nonaffected sources; and

(iii) The emission limitation calculated according to §63.344(e)(4) if affected sources are performing different types of operations, or affected sources are performing the same operations but subject to different emission limitations, and are controlled with an add-on air pollution control device that may also be controlling emissions from nonaffected sources.

(c)(1) *Standards for hard chromium electroplating tanks.* During tank operation, each owner or operator of an existing, new, or reconstructed affected source shall control chromium emissions discharged to the atmosphere from that affected source by not allowing the concentration of total chromium in the exhaust gas stream discharged to the atmosphere to exceed:

(i) 0.015 milligrams of total chromium per dry standard cubic meter (mg/dscm) of ventilation air (6.6×10^{-6} grains per dry standard cubic foot [gr/dscf]); or

(ii) 0.03 mg/dscm (1.3×10^{-5} gr/dscf) if the hard chromium electroplating tank is an existing affected source and is located at a small, hard chromium electroplating facility.

(2)(i) An owner or operator may demonstrate the size of a hard chromium electroplating facility through the definitions in §63.341(a). Alternatively,

an owner or operator of a facility with a maximum cumulative potential rectifier capacity of 60 million amp-hr/yr or more may be considered small if the actual cumulative rectifier capacity is less than 60 million amp-hr/yr as demonstrated using the following procedures:

(A) If records show that the facility's previous annual actual rectifier capacity was less than 60 million amp-hr/yr, by using nonresettable ampere-hr meters and keeping monthly records of actual ampere-hr usage for each 12-month rolling period following the compliance date in accordance with §63.346(b)(12). The actual cumulative rectifier capacity for the previous 12-month rolling period shall be tabulated monthly by adding the capacity for the current month to the capacities for the previous 11 months; or

(B) By accepting a Federally-enforceable limit on the maximum cumulative potential rectifier capacity of a hard chromium electroplating facility and by maintaining monthly records in accordance with §63.346(b)(12) to demonstrate that the limit has not been exceeded. The actual cumulative rectifier capacity for the previous 12-month rolling period shall be tabulated monthly by adding the capacity for the current month to the capacities for the previous 11 months.

(ii) Once the monthly records required to be kept by §63.346(b)(12) and by this paragraph show that the actual cumulative rectifier capacity over the previous 12-month rolling period corresponds to the large designation, the owner or operator is subject to the emission limitation identified in paragraph (c)(1)(i) of this section, in accordance with the compliance schedule of §63.343(a)(5).

(d) *Standards for decorative chromium electroplating tanks using a chromic acid bath and chromium anodizing tanks.* During tank operation, each owner or operator of an existing, new, or reconstructed affected source shall control chromium emissions discharged to the atmosphere from that affected source by either:

(1) Not allowing the concentration of total chromium in the exhaust gas stream discharged to the atmosphere

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to exceed 0.01 mg/dscm (4.4×10^{-6} gr/dscf); or

(2) If a chemical fume suppressant containing a wetting agent is used, by not allowing the surface tension of the electroplating or anodizing bath contained within the affected source to exceed 45 dynes per centimeter (dynes/cm) (3.1×10^{-3} pound-force per foot [lb_f/ft]) at any time during operation of the tank.

(e) *Standards for decorative chromium electroplating tanks using a trivalent chromium bath.* (1) Each owner or operator of an existing, new, or reconstructed decorative chromium electroplating tank that uses a trivalent chromium bath that incorporates a wetting agent as a bath ingredient is subject to the recordkeeping and reporting requirements of §§ 63.346(b)(14) and 63.347(i), but are not subject to the work practice requirements of paragraph (f) of this section, or the continuous compliance monitoring requirements in § 63.343(c). The wetting agent must be an ingredient in the trivalent chromium bath components purchased from vendors.

(2) Each owner or operator of an existing, new, or reconstructed decorative chromium electroplating tank that uses a trivalent chromium bath that does not incorporate a wetting agent as a bath ingredient is subject to the standards of paragraph (d) of this section.

(3) Each owner or operator of existing, new, or reconstructed decorative chromium electroplating tank that had been using a trivalent chromium bath that incorporates a wetting agent and ceases using this type of bath must fulfill the reporting requirements of § 63.347(i)(3) and comply with the applicable emission limitation within the timeframe specified in § 63.343(a)(7).

(f) *Operation and maintenance practices.* All owners or operators subject to the standards in paragraphs (c) and (d) of this section are subject to these operation and maintenance practices.

(1)(i) At all times, including periods of startup, shutdown, and malfunction, owners or operators shall operate and maintain any affected source, including associated air pollution control devices and monitoring equipment, in a manner consistent with good air pollu-

tion control practices, consistent with the operation and maintenance plan required by paragraph (f)(3) of this section.

(ii) Malfunctions shall be corrected as soon as practicable after their occurrence in accordance with the operation and maintenance plan required by paragraph (f)(3) of this section.

(iii) Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards.

(2)(i) Determination of whether acceptable operation and maintenance procedures are being used will be based on information available to the Administrator, which may include, but is not limited to, monitoring results; review of the operation and maintenance plan, procedures, and records; and inspection of the source.

(ii) Based on the results of a determination made under paragraph (f)(2)(i) of this section, the Administrator may require that an owner or operator of an affected source make changes to the operation and maintenance plan required by paragraph (f)(3) of this section for that source. Revisions may be required if the Administrator finds that the plan:

(A) Does not address a malfunction that has occurred;

(B) Fails to provide for the operation of the affected source, the air pollution control techniques, or the control system and process monitoring equipment during a malfunction in a manner consistent with good air pollution control practices; or

(C) Does not provide adequate procedures for correcting malfunctioning process equipment, air pollution control techniques, or monitoring equipment as quickly as practicable.

(3) *Operation and maintenance plan.* (i) The owner or operator of an affected source subject to paragraph (f) of this section shall prepare an operation and maintenance plan to be implemented no later than the compliance date, except for hard chromium electroplaters and the chromium anodizing operations in California which have until January 25, 1998. The plan shall be incorporated by reference into the

source's title V permit, if and when a title V permit is required. The plan shall include the following elements:

(A) The plan shall specify the operation and maintenance criteria for the affected source, the add-on air pollution control device (if such a device is used to comply with the emission limits), and the process and control system monitoring equipment, and shall include a standardized checklist to document the operation and maintenance of this equipment;

(B) For sources using an add-on control device or monitoring equipment to comply with this subpart, the plan shall incorporate the operation and maintenance practices for that device or monitoring equipment, as identified in Table 1 of this section, if the specific equipment used is identified in Table 1 of this section;

(C) If the specific equipment used is not identified in Table 1 of this section, the plan shall incorporate proposed operation and maintenance practices. These proposed operation and maintenance practices shall be submitted for approval as part of the submittal required under §63.343(d);

(D) The plan shall specify procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions do not occur; and

(E) The plan shall include a systematic procedure for identifying malfunctions of process equipment, add-on air pollution control devices, and process and control system monitoring equipment and for implementing corrective actions to address such malfunctions.

(ii) If the operation and maintenance plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the owner or operator shall revise the operation and maintenance plan within 45 days after such an event occurs. The revised plan shall include procedures for operating and maintaining the process equipment, add-on air pollution control device, or monitoring equipment during similar malfunction

events, and a program for corrective action for such events.

(iii) Recordkeeping associated with the operation and maintenance plan is identified in §63.346(b). Reporting associated with the operation and maintenance plan is identified in §63.347 (g) and (h) and paragraph (f)(3)(iv) of this section.

(iv) If actions taken by the owner or operator during periods of malfunction are inconsistent with the procedures specified in the operation and maintenance plan required by paragraph (f)(3)(i) of this section, the owner or operator shall record the actions taken for that event and shall report by phone such actions within 2 working days after commencing actions inconsistent with the plan. This report shall be followed by a letter within 7 working days after the end of the event, unless the owner or operator makes alternative reporting arrangements, in advance, with the Administrator.

(v) The owner or operator shall keep the written operation and maintenance plan on record after it is developed to be made available for inspection, upon request, by the Administrator for the life of the affected source or until the source is no longer subject to the provisions of this subpart. In addition, if the operation and maintenance plan is revised, the owner or operator shall keep previous (i.e., superseded) versions of the operation and maintenance plan on record to be made available for inspection, upon request, by the Administrator for a period of 5 years after each revision to the plan.

(vi) To satisfy the requirements of paragraph (f)(3) of this section, the owner or operator may use applicable standard operating procedure (SOP) manuals, Occupational Safety and Health Administration (OSHA) plans, or other existing plans, provided the alternative plans meet the requirements of this section.

(g) The standards in this section that apply to chromic acid baths shall not be met by using a reducing agent to change the form of chromium from hexavalent to trivalent.

TABLE 1 TO § 63.342—SUMMARY OF OPERATION AND MAINTENANCE PRACTICES

Control technique	Operation and maintenance practices	Frequency
Composite mesh-pad (CMP) system.	<ol style="list-style-type: none"> 1. Visually inspect device to ensure there is proper drainage, no chromic acid buildup on the pads, and no evidence of chemical attack on the structural integrity of the device. 2. Visually inspect back portion of the mesh pad closest to the fan to ensure there is no breakthrough of chromic acid mist. 3. Visually inspect ductwork from tank to the control device to ensure there are no leaks. 4. Perform washdown of the composite mesh-pads in accordance with manufacturers recommendations. 	<ol style="list-style-type: none"> 1. 1/quarter. 2. 1/quarter. 3. 1/quarter. 4. Per manufacturer.
Packed-bed scrubber (PSB).	<ol style="list-style-type: none"> 1. Visually inspect device to ensure there is proper drainage, no chromic acid buildup on the packed beds, and no evidence of chemical attack on the structural integrity of the device. 2. Visually inspect back portion of the chevron blade mist eliminator to ensure that it is dry and there is no breakthrough of chromic acid mist. 3. Same as number 3 above 4. Add fresh makeup water to the top of the packed bed ^{a, b} 	<ol style="list-style-type: none"> 1. 1/quarter. 2. 1/quarter. 3. 1/quarter. 4. Whenever makeup is added.
PBS/CMP system	<ol style="list-style-type: none"> 1. Same as for CMP system 2. Same as for CMP system 3. Same as for CMP system 4. Same as for CMP system 	<ol style="list-style-type: none"> 1. 1/quarter. 2. 1/quarter. 3. 1/quarter. 4. Per manufacturer.
Fiber-bed mist eliminator ^c .	<ol style="list-style-type: none"> 1. Visually inspect fiber-bed unit and prefiltering device to ensure there is proper drainage, no chromic acid buildup in the units, and no evidence of chemical attack on the structural integrity of the devices. 2. Visually inspect ductwork from tank or tanks to the control device to ensure there are no leaks. 3. Perform washdown of fiber elements in accordance with manufacturers recommendations. 	<ol style="list-style-type: none"> 1. 1/quarter. 2. 1/quarter. 3. Per manufacturer.
Air pollution control device (APCD) not listed in rule.	To be proposed by the source for approval by the Administrator	To be proposed by the source for approval by the Administrator.
Monitoring Equipment		
Pitot tube	Backflush with water, or remove from the duct and rinse with fresh water. Replace in the duct and rotate 180 degrees to ensure that the same zero reading is obtained. Check pitot tube ends for damage. Replace pitot tube if cracked or fatigued.	1/quarter.
Stalagmometer	Follow manufacturers recommendations	

^aIf greater than 50 percent of the scrubber water is drained (e.g., for maintenance purposes), makeup water may be added to the scrubber basin.

^bFor horizontal-flow scrubbers, top is defined as the section of the unit directly above the packing media such that the makeup water would flow perpendicular to the air flow through the packing. For vertical-flow units, the top is defined as the area downstream of the packing material such that the makeup water would flow countercurrent to the air flow through the unit.

^cWork practice standards for the control device installed upstream of the fiber-bed mist eliminator to prevent plugging do not apply as long as the work practice standards for the fiber-bed unit are followed.

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§ 63.343 Compliance provisions.

(a) *Compliance dates.* (1) The owner or operator of an existing affected source shall comply with the emission limitations in § 63.342 as follows:

(i) No later than 1 year after January 25, 1995, if the affected source is a decorative chromium electroplating tank; and

(ii) No later than 2 years after January 25, 1995, if the affected source is a hard chromium electroplating tank or a chromium anodizing tank.

(2) The owner or operator of a new or reconstructed affected source that has an initial startup after January 25, 1995, shall comply immediately upon startup of the source. The owner or operator of a new or reconstructed affected source that has an initial startup after December 16, 1993 but before January 25, 1995, shall follow the compliance schedule of § 63.6(b)(1).

(3) The owner or operator of an existing area source that increases actual or potential emissions of hazardous air pollutants such that the area source becomes a major source must comply