

SUBCHAPTER 39. EMISSION OF VOLATILE ORGANIC COMPOUNDS (VOCs) IN
NONATTAINMENT AREAS AND FORMER NONATTAINMENT AREAS

PART 7. SPECIFIC OPERATIONS

252:100-39-47. Control of VOC emissions from aerospace industries
coatings operations

(a) **Applicability.**

(1) This Section applies to all aerospace facilities located in Tulsa County. Sources once subject to this Section are always subject.

(2) This Section does not apply to ~~individual coating formulations that, when aggregated, do not exceed 55 gal/yr for the facility~~ the use of primer, topcoats, chemical milling maskants, and specialty coatings for which the annual total of each separate formulation used at the facility does not exceed 50 gal and the combined annual total of all such primer, topcoats, chemical milling maskants, and specialty coatings used at a facility does not exceed 200 gal. Primers and topcoats exempt under the Aerospace NESHAP 40 CFR §§ 63.741(f) and 63.745(f)(3) and (g)(4) and chemical milling maskants exempted under §63.747(c)(3) are not included in the 50 and 200 gal limits.

(3) Facilities with a potential to emit less than 10 tons/year ~~or less~~ of VOC from coatings operations are exempt from this Section.

(b) **Definitions.** The following words and terms, when used in this Section, shall have the following meaning, unless the context clearly indicates otherwise. Additional definitions for terms used in this Section are found in §63.742 and Appendix A of the Aerospace NESHAP 40 CFR 63 subpart GG, which is adopted by reference in OAC 252:100-41-15(b).

~~(1) "Aerospace" means the industries, air bases and depots that manufacture, rework, or repair aircraft or military equipment components for either commercial or military customers.~~

~~(2) "Aircraft" means any machine designed to travel through the earth's atmosphere. This group includes but is not limited to airplanes, balloons, dirigibles, drones, helicopters, missiles, and rockets.~~

~~(3)(1) "Alternate reasonably available control technology (ARACT)" means the lowest emission limit that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility as determined on a case-by-case basis.~~

(2) "Aqueous cleaning solvent" means a solvent in which water is at least 80% of the solvent as applied.

(3) "Chemical milling maskant" means a coating that is

applied directly to aluminum components to protect surface areas when chemical milling the component with a Type I or II etchant. Type I chemical milling maskants are used with a Type I etchant and Type II chemical milling maskants are used with a Type II etchant. This definition does not include bonding maskants, critical use and line sealer maskants, and seal coat maskants. Additionally, maskants that must be used with a combination of type I or II etchants and any of the above types of maskants (i.e., bonding, critical use and line sealer, and seal coat) are not included. Maskants that are defined as specialty coatings are not included under this definition.

~~(4) **"Coating"** means a material which covers a surface which alters the surface characteristics and from which VOCs can be emitted during the application and/or curing process.~~

~~(5) **"CTG"** means the Control Techniques Guidance Document "Control of Volatile Organic Emissions From Existing Stationary Sources, Volume VI: Surface Coating of Miscellaneous Metal Parts and Products," EPA No. 450/2-78-015.~~

~~(6) **"Facility"** means all of the pollutant emitting activities that belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person or persons under common control.~~

~~(7) **"Low VOC coating (LVOCC)"** means a coating that contains less VOC than the conventional coatings used by the industry. Low VOC coatings include waterborne, higher solids, electrodeposition, and powder coatings.~~

(4) **"Operating parameter value"** means a minimum or maximum value established for a control equipment or process parameter that, if achieved by itself or in combination with one or more other operating parameter values, determines that an owner or operator has continued to comply with an applicable emission limitation.

~~(8) **"Reasonably available control technology (RACT)"** means control technology that is reasonably available considering technological and economic feasibility and the need to impose such controls to attain and maintain a National Ambient Air Quality Standard.~~

(5) **"Specialty coating"** means a coating that, even though it meets the definition of a primer, topcoat, or self-priming topcoat, has additional performance criteria beyond those of primers, topcoats, and self-priming topcoats for specific applications. These performance criteria may include, but are not limited to, temperature or fire resistance, substrate compatibility, antireflection, temporary protection or marking, sealing, adhesively joining substrates, or enhanced corrosion protection.

~~(c) **General requirements.**~~

- ~~(1) All affected facilities shall develop an emissions reduction plan as set forth in 252:100-39-47(d). This plan, upon approval, shall constitute ARACT for that particular facility.~~
- ~~(2) ARACT must be installed and operating as provided in the approved plan no later than January 1, 1991 for existing facilities, unless additional phased compliance dates are approved in the plan.~~
- ~~(3) New and modified sources and coating applications not included in the plan are subject to the permit requirements set forth in 252:100-7 or 252:100-8, and will be submitted to EPA as source-specific SIP revisions, unless one of the following applies.~~
- ~~(A) The new coatings meet the presumptive norm of 3.5 pounds of VOC per gallon less water and exempt compounds.~~
- ~~(B) The total usage of the new coating does not exceed 55 gal/yr of each coating formulation.~~

(c) **Standards**

(1) **VOC content of coatings**

(A) **VOC content limits for specialty coating.** No specialty coatings that contain VOC in excess of the limits specified in Appendix N shall be applied to aerospace vehicles or components. The VOC content of specialty coatings shall include any VOC-containing materials added to the original coating supplied by the manufacturer.

(B) **Exemptions.** The VOC content limits listed in Appendix N do not apply to:

(i) touch-up, aerosol, and DOD "classified" coatings

(ii) coating of space vehicles

(C) **VOC content limits for primers, topcoats, chemical milling maskants.** Primers, topcoats (including self-priming topcoats), and chemical milling maskants (Type I/II) that are not specialty coatings listed in Appendix N are subject to MACT standards contained in the Aerospace NESHAP 40 CFR 63, subpart GG, §§ 63.745 and 63.747.

(2) **Application equipment.** Each new or existing primer or topcoat application operation subject to this Section shall comply with the requirements specified in the Aerospace NESHAP 40 CFR 63, subpart GG, §63.745. Specialty coatings are not subject to the equipment requirements of this paragraph.

(3) **Control equipment.** Each owner or operator may comply with the provisions of paragraph (c)(1) of this Section by using approved air pollution control equipment provided that

the control equipment has combined VOC emissions capture and control equipment efficiency of 81% or greater by weight.

(4) **General standards.** Except for specialty coatings, the sources subject to this Section are also subject to the general standards in the Aerospace NESHAP 40 CFR §63.743.

~~(d) **Emissions reduction plan.**~~

~~(1) **Plan development.** Each plan shall include:~~

~~(A) a detailed, reasoned and exhaustive review of each source of emissions within the facility and the entire plant collectively;~~

~~(B) identification and quantification of emissions, in terms of pounds per day, of all VOC both before and after the application of ARACT;~~

~~(C) a detailed, innovative engineering effort directed toward finding alternative air management schemes that can be incorporated in order to abate emissions at costs which are reasonable;~~

~~(D) a consideration of the level of control that is achievable using available alternative coatings, to include LVOCC for every application;~~

~~(E) a demonstration of the level of control achievable using available add on control devices which shall include, at a minimum, the feasibility/infeasibility of carbon adsorption, incineration/flaring, condensation, and a combination of carbon adsorption and incineration/flaring;~~

~~(F) a consideration of facility redesign, including recirculation, reduced air flows, consolidation of spray operations, and installation of common control devices for two or more separate coating operations;~~

~~(G) a consideration of alternative applications, to improve transfer efficiency, including high volume low-pressure spray equipment, heated spray guns, and electrostatic spray equipment/powder coatings;~~

~~(H) an explanation why each source is not a typical coating source covered by the CTG as defined in 252:100-39-47(b);~~

~~(I) a cost/benefit analysis for all control technology considered; and,~~

~~(J) a detailed compliance schedule that includes the emission limit and/or control techniques for each emission source which together with other relevant considerations, shall be set forth in a separate section of the plan that summarizes and outlines ARACT for the referenced facility.~~

~~(2) **Submission of emission reduction plans.** Three copies of the emissions reduction plan shall be submitted to the Division and one shall be submitted to EPA, Region VI.~~

~~(3) **Action on plan.** Within 30 days of submittal, or of May 25, 1990, whichever is later, the Division shall, considering~~

~~any comments submitted by EPA, either approve, modify or disapprove the plan.~~

~~(4) **Public hearing.** The Division shall, at the first meeting of the Air Quality Council following the approval, modification, or disapproval of the plan, present at public hearing, the staff's findings and ARACT determination.~~

~~(5) **Final approval.** Upon consideration of comments and recommendations from the Council, the owner or operator of the affected facility, the public, and EPA, the DEQ shall, within ten (10) days after the public hearing, issue a final ARACT approval. Final approval shall constitute ARACT for the affected facility.~~

~~(6) **Compliance.** The owner or operator shall be responsible for installation and operational provisions of the approved ARACT. Any violation of the plan or of its provisions shall constitute a violation of this Section.~~

~~(7) **Submission of SIP revision.** Upon approval by the DEQ, the ARACT determination shall be submitted to EPA as a SIP revision.~~

(d) **Solvent cleaning.** The following requirements apply to solvent cleaning operations.

(1) **Hand-wipe cleaning.**

(A) Cleaning solvents used in hand-wipe cleaning operations shall meet the definition of aqueous cleaning solvent in subsection (b) of this Section or have a VOC composite vapor pressure less than or equal to 45 mm Hg at 20°C. VOC composite vapor pressure shall be calculated using Equation 2 in Appendix N.

(B) The exempt cleaning operations listed in the Aerospace NESHAP 40 CFR §63.744(e)(1) through (13) are exempt from the requirements for hand-wipe cleaning in subparagraph (1)(A) of this subsection.

(2) **Flush cleaning.**

(A) For cleaning solvents used in the flush cleaning of parts, assemblies, and coating unit components, the used cleaning solvent (except for semiaqueous cleaning solvents) must be emptied into an enclosed container or collection system that is kept closed when not in use or captured with wipers provided they comply with the housekeeping requirements of paragraph (4) of this subsection.

(B) Aqueous cleaning solvents are exempt from subparagraph 2(A) of this subsection.

(3) **Spray gun cleaning.** All spray guns must be cleaned by one or more of the methods in the Aerospace NESHAP 40 CFR §63.744(c)(1) through (4).

(4) **Housekeeping.** Each owner or operator of a cleaning operation subject to this Section shall comply with the housekeeping measures and exemptions in the Aerospace NESHAP

40 CFR §63.744(a)(1) through (3). The requirements of this paragraph do not apply to aqueous cleaning solvents.

~~(e) **Reporting and recordkeeping.**~~

~~(1) **Recordkeeping requirements.** The owner or operator shall maintain:~~

~~(A) a material safety data sheet which documents the VOC content, composition, solids content, VOC density and other relevant information regarding each coating and VOC available for use in the affected surface coating processes;~~

~~(B) information detailing the operational parameters of the coating process sufficient to determine continuous compliance with the applicable control limits;~~

~~(C) information as to the amounts of each type coating used and the amounts of VOC used for dilution in each coating type for each coating operation;~~

~~(D) daily usage records for all coatings used that do not comply with the applicable control limits specified in the plan; and,~~

~~(E) records of any monitoring and testing conducted at an affected facility in accordance with the provisions specified in 252:100-39-47(f).~~

~~(2) **Method of calculating VOC content in coatings.** Records required by 252:100-39-47(e)(1)(A) through 252:100-39-47(e)(1)(E) detailing VOC in pounds per gallon of coating (less water and exempt compounds) shall be calculated as follows:~~

~~VOC in lbs/gal of coating = $\frac{W_v - W_w - W_x}{1 - V_w - V_x}$ where:~~

~~(A) W_v = weight of all volatiles;~~

~~(B) W_w = weight of water;~~

~~(C) W_x = weight of exempt compounds;~~

~~(D) V_w = volume fraction of water; and,~~

~~(E) V_x = volume fraction of exempt compounds.~~

~~(3) **Maintenance of records.** Records required by 252:100-39-47(e)(1)(A) through 252:100-39-47(e)(1)(E) shall be maintained for at least two years and shall be made available upon request by representatives of the AQD or EPA.~~

~~(4) **Alternative recordkeeping provision.** Alternatively to 252:100-39-47(e)(1) through 252:100-39-47(e)(3), an equivalent recordkeeping provision that satisfies the substantive requirements of 252:100-39-47(e)(1) through 252:10-39-47(e)(3) may be approved under the plan.~~

~~(e) **Monitoring.**~~

~~(1) Each owner or operator who chooses to comply with the provisions of paragraph (c)(1) of this Section by using approved air pollution control equipment shall submit a monitoring plan that specifies the applicable operating parameter value, or range of values, to ensure ongoing~~

compliance with paragraph (c)(3) of this Section. The monitoring device shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's specifications.

(2) Each owner or operator using an enclosed spray gun cleaner shall visually inspect the seals and all other potential sources of leaks at least once per month. Each inspection shall occur while the spray gun cleaner is in operation.

(3) Except for specialty coatings, any source that complies with the monitoring requirements of the Aerospace NESHAP 40 CFR §63.751 is deemed to be in compliance with the requirements of paragraph (c)(3) of this Section and paragraph (2) of this subsection.

~~(f) **Testing and monitoring.**~~

~~(1) **Testing.** The Division may require testing at the expense of the owner or operator to establish emission from any particular source or sources. Test methods may include 1-4, 18, 24, 24A, 25A, 25B found in the Appendix A of 40 CFR Part 60, including the procedures found at 40 CFR 60.444.~~

~~(2) **Monitoring.** Monitoring shall be required of any owner or operator who uses add on control equipment for compliance. Such monitoring shall accurately measure and record operational parameters of all required control devices to ensure the proper functioning of those devices in accordance with design specifications, including:~~

~~(A) the exhaust temperature of direct flame incinerators and/or gas temperature immediately upstream and downstream of any catalyst bed;~~

~~(B) the total amount of VOCs recovered by carbon adsorption or other VOC recovery system during a calendar month; and,~~

~~(C) the dates and reasons for any maintenance and repair of the required control devices and the estimated quantity and duration of VOC emissions during such activities.~~

~~(252:100-39-47 Effective May 25, 1990)~~

~~(f) **Recordkeeping requirements.**~~

~~(1) **Coatings.**~~

~~(A) Each owner or operator using primer and topcoat application operations or chemical milling maskant application operations shall comply with the recordkeeping requirement of the Aerospace NESHAP 40 CFR §63.752.~~

~~(B) Each owner or operator using specialty coatings listed in Appendix N shall:~~

~~(i) maintain a current list of coatings in use showing category and as-applied VOC content of each coating; and,~~

~~(ii) record coating usage on a 12-month rolling~~

basis.

(2) **Cleaning solvents.** Each owner or operator using cleaning solvents required in subsection (d) of this Section shall:

(A) for aqueous and semiaqueous hand-wipe cleaning solvents, maintain a list of materials used with corresponding water contents;

(B) for vapor pressure compliant hand-wipe cleaning solvents maintain a current list of cleaning solvents in use with their respective vapor pressures or, for blended solvents, VOC composite vapor pressures, and record cleaning solvent usage on a 12-month rolling basis; and,

(C) for cleaning solvents with a vapor pressure greater than 45 mm Hg used in exempt hand-wipe cleaning operations maintain a list of exempt hand-wipe cleaning processes and record cleaning solvent usage on an annual basis.

(3) **Control equipment.** Each owner or operator using control equipment under paragraph (c)(3) of this Section shall record monitoring parameters as specified in the monitoring plan required under paragraph (e)(1) of this Section.

(4) **Exemptions.** Except for the specialty coatings listed in Appendix N, any source that complies with the recordkeeping requirements of the Aerospace NESHAP, 40 CFR §63.752, is deemed to be in compliance with the requirements of this subsection.

(h) **Test methods.**

(1) **Coatings which are not waterborne (water-reducible).** For coatings which are not waterborne, determine the VOC content of each formulation (less water and less exempt solvents) as applied using manufacturer's supplied data or Method 24 of 40 CFR part 60, Appendix A. If there is a discrepancy between the manufacturer's formulation data and the results of the Method 24 analysis, compliance shall be based on the results from the Method 24 analysis.

(2) **Waterborne (water-reducible) coatings.** For waterborne coatings, manufacturer's supplied data alone can be used to determine the VOC content of each formulation.

(3) **Cleaning solvents.**

(A) For aqueous and semiaqueous cleaning solvents manufacturer's supplied data shall be used to determine the water content.

(B) For hand-wipe cleaning solvents required in paragraph (d)(1) of this Section, manufacturer's supplied data or standard engineering reference texts or other equivalent methods shall be used to determine the vapor pressure or VOC composite vapor pressure for

blended cleaning solvents.

(4) **Control equipment.** Measurements of VOC emissions subject to paragraph (c)(3) of this Section shall be conducted in accordance with EPA Methods 18, 25, and/or 25A (40 CFR 60, Appendix A).

(5) **Exemptions.** Except for specialty coatings, any source which complies with the test method requirements of the Aerospace NESHAP, 40 CFR §63.750, is deemed to be in compliance with the requirements of this subsection.

(i) **Compliance date and determination.**

(1) **Compliance dates.** The requirements of this Section shall be considered RACT for aerospace facilities in Tulsa County effective July 1, 2002. Existing sources shall be in compliance with these requirements at that time. New or modified sources shall be in compliance with these requirements upon startup.

(2) **Compliance determinations**

(A) **VOC content of coatings.**

(i) Coatings used at facilities subject to this Section shall be deemed in compliance when the VOC content of these coatings comply with the requirements of paragraph (c)(1) of this Section.

(ii) For purposes of determining compliance with emission limits, VOC will be measured by the approved test methods. Where such a method also inadvertently measures compounds that are exempt solvents, an owner or operator may exclude these exempt solvents when determining compliance with an emission standard.

(iii) When control equipment is used to comply with the coating standards in paragraph (c)(1) of this Section, compliance shall be determined in accordance with Aerospace NESHAP 40 CFR §63.749(d) and (h)

(B) **Cleaning operations**

(i) **Housekeeping requirements.** Each facility subject to this Section shall be considered in compliance if the owner or operator institutes and carries out the housekeeping measures required under paragraph (d)(4) of this Section.

(ii) **Hand-wipe cleaning.** A hand-wipe cleaning operation subject to this Section shall be considered in compliance when all hand-wipe cleaning solvents meet either the definition of aqueous cleaning solvent in subsection (b) of this Section or meet the vapor pressure requirement specified in subparagraph (d)(1)(A) of this Section.

(iii) **Flush cleaning.** A flush cleaning operation

subject to this Section shall be considered in compliance if the operating requirements specified in paragraph (d)(2) of this Section are implemented and carried out.

(iv) **Spray gun cleaning.** A spray gun cleaning operation subject to this Section shall be considered in compliance if the conditions in Aerospace NESHAP 40 CFR §63.749(c)(2) are met.

(3) **Exemptions.** Except for specialty coatings, any source that complies with the compliance dates and determinations of the Aerospace NESHAP, 40 CFR §63.749 is deemed to be in compliance with the requirements of this subsection.

(j) **Revocation of ARACT plans.** Existing ARACT plans for aerospace facilities located in Tulsa County shall become null and void on July 1, 2002.