

- (c) (5) AEROSPACE COMPONENT is the raw material, partial or completed fabricated part, assembly of parts, or completed unit of any Aircraft or Space-Vehicle and includes integral equipment such as models, mock-ups, prototypes, molds, jigs, tooling, hardware jackets, and test coupons.
- (6) AEROSPACE MATERIAL is any coating, Primer, Adhesive, Sealant, maskant, lubricant, Stripper or hand-wipe cleaning or clean-up solvent used during the manufacturing, assembly, refinishing, maintenance or service of an Aerospace Component.
- (7) AIRCRAFT is any machine designed to travel through the air, without leaving the earth's atmosphere, whether heavier or lighter than air, including airplanes, balloons, dirigibles, helicopters, and missiles.
- (8) AIR POLLUTION CONTROL DEVICE is equipment installed for the purpose of reducing VOC and/or toxic emissions.
- (9) AIR POLLUTION CONTROL DEVICE EFFICIENCY, in percent, is the ratio of the weight of the VOC removed by the control device from the effluent stream entering the control device to the weight of VOC in the effluent stream exiting the control device, both measured simultaneously, and can be calculated by the following equation:

$$\text{Control Device Efficiency} = \frac{W_c - W_a}{W_c} \times 100$$

Where: W_c = Weight of VOC entering control device

W_a = Weight of VOC discharged from the control device

- (10) AIR POLLUTION CONTROL SYSTEM is either an enclosed spray booth, an enclosed application area, or a Permanent Total Enclosure venting to an Air Pollution Control Device, installed to collect and reduce emissions from exhaust streams, including, but not limited to, spray booths, Curing ovens, or application areas.
- (11) ANTICHAFE COATING is a coating applied to areas of moving Aerospace Components which may rub during normal operation.
- (12) BARRIER COATING is a coating applied in a thin film to fasteners to inhibit dissimilar metal corrosion and to prevent galling.
- (13) CHEMICAL ABSTRACTS SERVICE REGISTRATION NUMBER or CAS RN is a unique numerical identifier assigned by the Chemical

- (c) (13) Abstracts Service to a single chemical substance to ensure unambiguous identification.
- (14) CHEMICAL MILLING is the removal of metal by chemical action of acids or alkalis.
- (15) CLEANING SOLVENT is a VOC-containing liquid substance used to perform solvent cleaning.
- (16) CLEAR TOPCOAT is a Topcoat that contains no visible pigments and is uniformly transparent when applied.
- (17) CONFORMAL COATING is a coating applied to electrical conductors and circuit boards to protect them against electrical discharge damage and/or corrosion.
- (18) CURING means the process of drying and hardening of an Aerospace Material.
- (19) DRY LUBRICATIVE MATERIALS are coatings consisting of lauric acid, cetyl alcohol, waxes or other non-cross linked or resin bound materials which act as a dry lubricant or protective coat.
- (20) ELECTRIC- or RADIATION-EFFECT COATINGS include electrically conductive coatings and radiation effect coatings, the uses of which may include prevention of radar detection.
- (21) ELECTROSTATIC DISCHARGE PROTECTION COATING is a coating applied to Space-Vehicles, missiles, aircraft radomes, and helicopter blades to disperse static energy.
- (22) EXECUTIVE OFFICER is as defined in Rule 102 – Definition of Terms (Rule 102).
- (23) EXEMPT COMPOUNDS are as defined in Rule 102.
- (24) FACILITY is a business, or public service engaged in aerospace assembling and manufacturing operations, including the application of Aerospace Materials, that are owned or operated by the same Person or Persons and are located on the same or contiguous parcels.
- (25) FASTENER MANUFACTURER is a Facility that coats Aircraft fasteners, such as pins, collars, bolts, nuts, and rivets, with Solid-Film Lubricants for distribution to other facilities.
- (26) FIRE-RESISTANT COATING is a coating that:
 - (A) For Commercial Aircraft, Fire-Resistant Coatings are used on passenger cabin interior parts that are subject to the Federal Aviation Administration fireworthiness requirements; and

- (c) (26) (B) For Military Aircraft, Fire-Resistant Coatings are used on parts that are subject to the flammability requirements of MIL-STD-1630A and MIL-A-87721.
- (27) FLIGHT-TEST COATING is a coating applied to an Aircraft prior to flight testing to protect the Aircraft from corrosion and to provide required marking during flight test evaluation.
- (28) FUEL-TANK COATING is a coating applied to a fuel tank of an Aircraft to protect it from corrosion and/or bacterial growth.
- (29) GRAMS OF VOC PER LITER (g/L) OF COATING, LESS WATER AND LESS EXEMPT COMPOUNDS or REGULATORY VOC is the weight of VOC per combined volume of VOC and coating solids and can be calculated by the following equation:

$$\text{Regulatory VOC} = \frac{W_v - W_w - W_{ex}}{V_m - V_w - V_{ex}}$$

Where:

- W_v = Weight of volatile compounds in grams (includes water, Exempt Compounds, and VOCs);
- W_w = weight of water in grams
- W_{ex} = weight of Exempt Compounds in grams;
- V_m = volume of material in liters;
- V_w = volume of water in liters;
- V_{ex} = volume of Exempt Compounds in liters.

For Aerospace Materials that contain Reactive Diluents the grams of VOC per Liter of Coating Less Water and Less Exempt Compounds shall be calculated by the following equation:

$$\text{Regulatory VOC} = \frac{W_v - W_w - W_{ex}}{V_m - V_w - V_{ex}}$$

Where:

- W_v = weight of volatile compounds evolved during Curing and analysis (includes water, Exempt Compounds, and VOCs);
- W_w = weight of water evolved during Curing and analysis, in grams;

- (c) (29)
 - W_{ex} = weight of Exempt Compounds evolved during Curing and analysis, in grams;
 - V_m = volume of the material prior to reaction, in liters;
 - V_w = volume of water evolved during Curing and analysis, in liters;
 - V_{ex} = volume of Exempt Compounds evolved during Curing and analysis, in liters.

(30) GRAMS OF VOC PER LITER OF MATERIAL or ACTUAL VOC is the weight of VOC per volume of material and can be calculated by the following equation:

$$\text{Actual VOC} = \frac{W_v - W_w - W_{ex}}{V_m}$$

Where:

- W_v = weight of volatile compounds in grams (includes water, Exempt Compounds, and VOCs);
 - W_w = weight of water in grams;
 - W_{ex} = weight of Exempt Compounds in grams;
 - V_m = volume of material in liters.
- (31) HAND APPLICATION METHOD is the application of materials by manually held, non-mechanically operated equipment, including, but not limited to: paint brushes, hand rollers, caulking guns, trowels, spatulas, syringe daubers, rags, and sponges.
- (32) HIGH-TEMPERATURE COATING is a coating that must withstand temperatures of more than 350 degrees Fahrenheit (°F).
- (33) HIGH-VOLUME, LOW-PRESSURE (HVLP) SPRAY is a material application system used to apply coatings by means of a spray gun which is designed to be operated, and which is operated at air pressure between 0.1 and 10 pounds per square inch gauge measured dynamically at the center of the air cap and at the air horns.
- (34) IMPACT-RESISTANT COATING is a flexible coating that protects Aerospace Components, such as Aircraft, landing gear, and landing gear compartments, and other surfaces subject to impact and abrasion from runway debris.
- (35) INK JET MARKING SYSTEM is a non-contact, computer-controlled ink-jet system used to apply Stencil Coatings onto coated or uncoated aerospace parts.

- (c) (36) LEVEL I MATERIALS are Aerospace Materials identified in Table 1 – Table of Standards (Table 1) or Table 2 - Table of Standards for Low-Solids Materials, Cleaners, and Strippers (Table 2) as Level I Materials where the use of *para*-chlorobenzotrifluoride (pCBtF; CAS RN: 98-56-6) and *tert*-butyl acetate (t-BAc; CAS RN: 540-88-5) will be phased out.
- (37) LEVEL II MATERIALS are Aerospace Materials identified in Table 1 or Table 2 as Level II Materials where the use of pCBtF and t-BAc will conditionally be allowed.
- (38) LINE-SEALER MASKANT is a maskant used to cover scribe lines in maskant in order to protect against etchant in multi-step etching processing.
- (39) LONG TERM PRIMER (METAL TO STRUCTURAL CORE BONDING) is an Adhesive Bonding Primer that has met the Aircraft manufacturers' required performance characteristics following 6,000 hours testing, used for metal to structural core bonding, and with an Adhesive that is specified to be cured at 350°F ± 10°F.
- (40) LOW-SOLIDS MATERIALS are Aerospace Materials, other than Low-Solids Corrosion Resistant Primers, which contain less than one pound of solids per gallon of material, where the solids are determined pursuant to ASTM D 2369 – Standard Test Method for Volatile Content of Coatings (ASTM D 2369).
- (41) LOW-SOLIDS CORROSION RESISTANT PRIMER is a corrosion resistant polyurethane compatible Primer with enhanced adhesion and rain erosion resistance which contains no more than 45 percent solids, by weight, as applied, where the solids are determined pursuant to ASTM D 2369.
- (42) MASKANT FOR CHEMICAL MILLING is a coating applied directly to an Aerospace Component to protect surface areas when Chemical Milling the component.
- (43) MASKANT FOR CHEMICAL PROCESSING is a coating applied directly to an Aerospace Component to protect surface areas when anodizing, aging, bonding, plating, etching, and/or performing other chemical surface operations on the component.
- (44) MAXIMUM INCREMENTAL REACTIVITY (MIR) means the measure of the photochemical reactivity of a VOC, which estimates the weight of ozone produced from a weight of VOC expressed as gram of ozone per gram of VOC (g O₃/g VOC). MIR values for individual VOCs are specified in Sections 94700 and 94701, Title 17, California Code of Regulations.

- (c) (45) METALLIZED EPOXY COATING is an epoxy coating that contains at least 5 grams of Metal Particles, which are pieces of an elemental pure metal or a combination of elemental metals, per liter of coating, as applied, for appearance and/or added protection.
- (46) MOLD RELEASE COATING is a coating applied to the surface of a mold to prevent the molded component from sticking to the mold as it is removed.
- (47) NON-STRUCTURAL ADHESIVE is an Adhesive that bonds non-load-carrying Aircraft components in non-critical applications and is not covered in any other specialty Adhesive categories.
- (48) OPTICAL ANTI-REFLECTION COATING is a coating with a low reflectance in the infrared and visible wavelength range and is used for anti-reflection on or near optical and laser hardware.
- (49) 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 United States Environmental Protection Agency (U.S. EPA) Method 204.
- (50) PERSON is as defined in Rule 102.
- (51) PHOTOLITHOGRAPHIC MASKANT is a coating applied by Photoresist Operation(s) directly to printed circuit boards, and ceramic and similar substrates to protect surface areas from Chemical Milling or chemical processing.
- (52) PHOTORESIST OPERATION is a process for the application or development of photoresist masking solution on a substrate, including preparation, soft bake, develop, hard bake, and stripping, and can be generally subdivided as follows:
- (A) Negative Photoresist Operation is a process where the maskant hardens when exposed to light and the unhardened maskant is stripped, exposing the substrate surface for Chemical Milling or chemical processing; and
- (B) Positive Photoresist Operation is a process where the maskant softens when exposed to light and the softened maskant is stripped, exposing the substrate surface for Chemical Milling or chemical processing.

- (c) (53) PRETREATMENT WASH PRIMER is a Primer which contains no more than 12 percent solids by weight, and at least a half percent acid by weight, applied directly to metal surfaces to provide surface etching, corrosion resistance, adhesion, and ease of stripping.
- (54) PRIMER is a coating applied directly to an Aerospace Component for purposes of corrosion prevention, protection from the environment, functional fluid resistance and/or adhesion of subsequent coatings, Adhesives, or Sealants.
- (55) PRIMER COMPATIBLE WITH RAIN EROSION RESISTANT COATING is a Primer to which rain erosion resistant Topcoat is applied.
- (56) PRODUCT-WEIGHTED MIR (PW-MIR) means the sum of all weighted-MIR for all ingredients in an Aerospace Material. The PW-MIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging) and calculated according to the following equations:

Weighted MIR (Wtd-MIR) ingredient= MIR x Weight Fraction ingredient
and

$$PW-MIR = (Wtd-MIR)_1 + (Wtd-MIR)_2 + \dots + (Wtd-MIR)_n$$

Where:

MIR = ingredient MIR; and

1,2, 3..., n = each ingredient in the product up to the total n ingredients in the product.

- (57) RAIN EROSION-RESISTANT COATING is a coating that protects leading edges, flaps, stabilizers, and engine inlet lips against erosion caused by rain impact during flight.
- (58) REACTIVE DILUENT is a liquid which is a VOC during application and one in which through chemical or physical reactions such as polymerization, becomes an integral part of a finished coating.
- (59) REPAIR COATING is a coating used to recoat portions of a product which has sustained mechanical damage to the coating following normal painting operations.
- (60) REMANUFACTURED AIRCRAFT PARTS are Aerospace Components that are built as spare parts or replacement parts subject to an existing commercial Aircraft specification.

- (c) (61) REPAIR MASKANT is a maskant used to cover imperfections in the maskant coat.
- (62) REWORK is the inspection, repair, and reconditioning of Aerospace Components.
- (63) RUBBER SOLUTION FUEL-TANK COATING is a Fuel-Tank Coating which performs as a Sealant and protects the tank from corrosion and/or bacterial growth and is formulated with a butadiene acrylonitrile copolymer.
- (64) SCALE INHIBITOR is a coating that is applied to the surface of a part prior to thermal processing to inhibit the formation of tenacious scale.
- (65) SCHOOL means any public or private school, including juvenile detention facilities with classrooms, used for the education of more than 12 children at the school in kindergarten through grade 12. School also means an Early Learning and Developmental Program by the U.S. Department of Education or any state or local early learning and development programs such as preschools, Early Head Start, Head Start, First Five, and Child Development Centers. A school does not include any private school in which education is primarily conducted in private homes. The term includes any building or structure, playground, athletic field, or other area of school property.
- (66) SEALANTS are viscous semisolid materials that fill voids in order to seal out water, fuel, and other liquids and solids, and in some cases, air movement.
- (67) SENSITIVE RECEPTOR means any residence including private homes, condominiums, apartments, and living quarters; Schools as defined in paragraph (c)(65); daycare centers; and health care facilities such as hospitals or retirement and nursing homes. Sensitive Receptor includes long term care hospitals, hospices, prisons, and dormitories or similar live-in housing.
- (68) SHORT TERM PRIMER (METAL TO STRUCTURAL CORE BONDING) is an Adhesive Bonding Primer that has met the manufacturers' required performance characteristics following 1,000 hours testing, used for metal-to-metal and metal-to-structural core bonding, and with an Adhesive which is specified to be cured at a temperature of 350°F ± 10°F.
- (69) SOLID-FILM LUBRICANT is a very thin coating consisting of a binder system containing as its chief pigment material one or more of the following: molybdenum disulfide, graphite, polytetrafluoroethylene, or other solids that act as a dry lubricant between faying surfaces.

- (c) (70) SONIC AND ACOUSTIC APPLICATIONS are the use of Aerospace Materials on Aerospace Components that are subject to mechanical vibration and/or sound wave cavitation.
- (71) SOUTH COAST AQMD TEST METHOD means a test method included in the manual of “Laboratory Methods of Analysis for Enforcement Samples,” which can be found on the South Coast AQMD website and are referenced in subdivision (h).
- (72) SPACE-VEHICLE is a vehicle designed to travel beyond the earth's atmosphere.
- (73) STENCIL COATING is an ink or a coating that is rolled, sprayed with an airbrush or a touch-up gun, brushed, or applied with an Ink Jet Marking System, while using a template to add identifying letters and/or numbers to Aerospace Components.
- (74) STRIPPER is a volatile liquid applied to remove cured Aerospace Materials or their residues.
- (75) STRUCTURAL ADHESIVE - AUTOCLAVABLE is an Adhesive used to bond load-carrying Aircraft components and is cured by heat and pressure in an autoclave.
- (76) STRUCTURAL ADHESIVE - NON-AUTOCLAVABLE is an Adhesive cured and is used to bond load-carrying Aircraft components or other critical functions, such as nonstructural bonding in the proximity of engines.
- (77) TEMPORARY MARKING COATING is an ink, or a coating used to make identifying markings and is removed prior to delivery of the Aerospace Component and/or assembly.
- (78) TEMPORARY PROTECTIVE COATING is a coating applied to an Aerospace Component to protect it from mechanical and environmental damage during manufacturing.
- (79) TOPCOAT is a coating applied over a Primer for purposes such as appearance, identification, or protection.
- (80) TOUCH-UP COATING is a coating used to cover minor coating imperfections appearing after the main coating operation.
- (81) TRANSFER EFFICIENCY is the ratio of the weight or volume of coating solids adhering to an object to the total weight or volume, respectively, of coating solids used in the application process, expressed as a percentage.
- (82) TYPE I ETCHANT is a Chemical Milling etchant that contains varying amounts of dissolved sulfur and does not contain amines.

(c) (83) TYPE II ETCHANT is a Chemical Milling etchant that is a strong sodium hydroxide solution containing amines.

(84) VOC COMPOSITE VAPOR PRESSURE is the sum of the vapor pressures of the compounds defined as VOCs.

VOC Composite Vapor Pressure is calculated as follows:

$$PP_c = \frac{\sum_{i=1}^n \frac{W_i}{MW_i} \times VP_i}{\frac{W_w}{MW_w} + \frac{W_e}{MW_e} + \sum_{i=1}^n \frac{W_i}{MW_i}}$$

Where: W_i = Weight of the "i"th VOC compound, in grams;

W_w = Weight of water, in grams;

W_e = Weight of Exempt Compound, in grams;

MW_i = Molecular weight of the "i"th VOC compound, in grams per gram-mole;

MW_w = Molecular weight of water, in grams per gram-mole;

MW_e = Molecular weight of Exempt Compound, in grams per gram-mole;

Pp_c = VOC Composite Vapor Pressure at 20°C, in millimeters of mercury (mmHg);

Vp_i = Vapor pressure of the "i"th VOC compound at 20°C, in mmHg.

(85) VOLATILE ORGANIC COMPOUND (VOC) is as defined in Rule 102.

(86) WEIGHT FRACTION means the weight of an ingredient divided by the total net weight of the product, expressed to thousands of a gram of ingredient per gram of product (excluding container and packaging).

(87) WING COATING is a corrosion-resistant coating that is resilient enough to withstand the flexing of the wings.

(88) WIRE PREBONDING ETCHANT is a non-additive surface treatment process to provide bondability of aerospace wire coatings to the underlying insulation layer.

(d) Requirements

(1) VOC Limits for Aerospace Materials

No Person shall manufacture, supply, sell, offer for sale, market, blend, distribute, package, or repackage any Aerospace Materials for use within

- (d) (1) South Coast AQMD, nor shall any owner or operator of a Facility apply or solicit the use of any Aerospace Materials on Aerospace Components, including any VOC-containing materials added to the original Aerospace Material supplied by the manufacturer, which contain VOC in excess of the applicable regulatory VOC limits specified in Table 1.

Table 1 – Table of Standards

Categories	Regulatory VOC Limit (g/L-Coating)	Level I Materials	Level II Materials
Primers			
General Primer	350		✓
Pretreatment Wash Primer	780		✓
Rain Erosion-Resistant Coating Compatible Primer	850		✓
Adhesion Promoter	750	✓	
Adhesive Bonding Primer			
New Commercial Aircraft	250		✓
All Military Aircraft	805		✓
Remanufactured Commercial Aircraft Parts	805		✓
Sonic and Acoustic Applications	805		✓
Adhesive Bonding Primer			
Long Term	250		✓
Short Term	250		✓
Topcoats			
General Topcoat	420		✓
Clear Topcoat	520		✓
Wing Coating	750		✓
Impact-Resistant Coating	420		✓
High-Temperature Coating	850		✓

Categories	Regulatory VOC Limit (g/L-Coating)	Level I Materials	Level II Materials
Antichafe Coating	420		✓
Rain Erosion-Resistant Coating	800		✓
Conformal Coating	750		✓
Optical Anti-Reflective Coating	700		✓
Scale Inhibitor	880		✓
Metallized Epoxy Coating	700		✓
Electric or Radiation Effect Coating	800		✓
Temporary Protective Coating	250		✓
Fuel-Tank Coatings	420		✓
Mold Release Coatings	780		✓
Flight-Test Coatings			
Used on Missiles or Single Use Target Craft	420		✓
All Other	840		✓
Fire-Resistant Coatings			
Commercial	650		✓
Military	800		✓
Wire Coatings			
Phosphate Ester Resistant Ink	925		✓
Other	420		✓
Space-Vehicle Coatings			
Electrostatic Discharge Protection Coating	800		✓
Other	1000		✓
Adhesives			
Non-Structural Adhesive	250	✓	
Structural Adhesive			
Autoclavable	50	✓	
Non-Autoclavable	850	✓	
Space-Vehicle Adhesive	800	✓	
Fuel Tank Adhesive	620	✓	

Categories	Regulatory VOC Limit (g/L-Coating)	Level I Materials	Level II Materials
Sealants			
Fastener Sealant	675	✓	
Extrudable, Rollable or Brushable Sealant	280	✓	
Other	600	✓	
Maskants			
For Chemical Processing	250	✓	
For Chemical Milling			
Type I Etchants	250	✓	
Type II Etchants	160	✓	
Photolithographic	850	✓	
Touch-up, Line-Sealer Maskants	750	✓	
Lubricants			
Fastener Installation			
Solid-Film Lubricant	880	✓	
Dry Lubricative Materials	675	✓	
Fastener-Lubricative Coatings, Fastener Manufacturing			
Solid-Film Lubricant	250	✓	
Dry Lubricative Materials	120	✓	
Barrier Coating	420	✓	
Non-Fastener Lubricative Coatings, Fastener Manufacturing			
Solid-Film Lubricant	880	✓	
Dry Lubricative Materials	675	✓	

(d) (2) VOC Limits for Low-Solids Materials, Cleaners, and Strippers

No Person shall manufacture, supply, sell, offer for sale, market, blend, distribute, package, or repackage any Aerospace Material for use within South Coast AQMD, nor shall any owner or operator of a Facility apply or solicit the use of any Aerospace Material on Aerospace Components, including any VOC-containing materials added to the original Aerospace Material, supplied by the manufacturer, which contain VOC in excess of the applicable Actual VOC Limit or VOC Composite Vapor Pressure limit specified in Table 2.

Table 2 – Table of Standards for Low-Solids Materials, Cleaners, and Strippers

Categories	Actual VOC Limit (g/L-Material)	VOC Composite Vapor Pressure (mmHg)	Level I Materials	Level II Materials
Low-Solids Solvents				
Cleaning Solvents	200	45	✓	
Strippers	300	9.5	✓	
Low-Solids Coatings				
Adhesives, Coatings, Primers or Sealants	120	N/A	✓	
Corrosion Resistant Primer	350	N/A	✓	

(d) (3) Alternative PW-MIR VOC Limits

In lieu of complying with the Table 1 Regulatory VOC limit, a Person may manufacture, supply, sell, offer for sale, market, blend, distribute, package, or repackage any Adhesion Promoter or Maskant for use within South Coast AQMD, and an owner or operator of a Facility may apply or solicit the use of any Adhesion Promoter or Maskant on Aerospace Components, including any VOC-containing materials added to the original Aerospace Material supplied by the manufacturer of the Adhesion Promoter or Maskant, that complies with the Alternative PW-MIR VOC limit in Table 3 – Alternative PW-MIR VOC Limits.

Table 3 – Alternative PW-MIR VOC Limits

Categories	g O ₃ /g Product
Adhesion Promoter	2.00
Maskant	0.70

(4) Solvent Cleaning Operations; Storage and Disposal

An owner or operator of a Facility using Cleaning Solvents to remove loosely held uncured adhesives, uncured inks, uncured coatings, and contaminants such as dirt, soil, and grease, from material application

- (d) (4) equipment, and the storage and disposal of solvent laden cloth and paper shall:
 - (A) Comply with the provisions of Rule 1171; and
 - (B) Not atomize any Cleaning Solvent unless it is vented to an approved Air Pollution Control Device.
- (5) Transfer Efficiency

An owner or operator of a Facility shall apply Aerospace Materials using properly operating equipment, operated according to procedures specified by the equipment manufacturer, and in compliance with applicable permit conditions, if any, by one of the following methods:

 - (A) Electrostatic application;
 - (B) Flow coater;
 - (C) Roll coater;
 - (D) Dip coater;
 - (E) HVLP Spray;
 - (F) Hand Application Methods;
 - (G) Ink Jet Marking System; or
 - (H) Any such other Aerospace Material application methods as demonstrated, in accordance with the provisions of paragraph (i)(5), to be capable of achieving equivalent or better Transfer Efficiency than the Aerospace Material application method listed in subparagraph (d)(5)(E), provided written approval is obtained from the Executive Officer.
- (6) Air Pollution Control System to Control VOC Emissions

In lieu of complying with the VOC limits in paragraphs (d)(1), (d)(2), and/or the transfer efficiency requirements in paragraph (d)(5):

 - (A) An owner or operator of a Facility may comply by using an approved Air Pollution Control System that achieves a minimum overall VOC control efficiency (capture and control) of 95%, by weight, or is less than 50 parts per million by volume (ppmv) at the outlet, calculated as carbon with no dilution; and
 - (B) A Person may supply, sell, or offer for sale Aerospace Materials that exceeds the VOC limits in paragraphs (d)(1) and (d)(2) to an owner or operator of a Facility complying with subparagraph (d)(6)(A) provided the owner or operator of the Facility complying with subparagraph (d)(6)(A) has provided written documentation to the

- (d) (6) (B) Person supplying, selling, or offering for sale Aerospace Materials stating that the Facility is complying with an approved Air Pollution Control System and that documentation is maintained in accordance with subparagraph (g)(7).

(e) Alternative Compliance Options

- (1) An owner or operator of a Facility may elect to comply with the provisions of paragraphs (d)(1) and/or (d)(2) by means of an Alternative Emission Control Plan pursuant to Rule 108 – Alternative Emissions Control Plans.
- (2) Air Pollution Control Systems for Level II Materials containing pCBtF and t-BAc

An owner or operator of a Facility electing to install an Air Pollution Control System in lieu of complying with the Level II Material prohibition in paragraph (f)(3) shall:

(A) By October 3, 2026:

- (i) Submit a complete South Coast AQMD permit application(s) to include permit conditions that require:

- (I) An Air Pollution Control Device Efficiency of at least 95 percent removal of VOC emissions, or equivalent mass emissions calculated as carbon, demonstrated by a source test pursuant to subdivision (h);
- (II) The use or Curing of any Level II Materials containing pCBtF and t-BAc to be conducted within an Air Pollution Control System; and
- (III) A usage limit of any Level II Materials containing pCBtF and t-BAc pursuant to subparagraph (e)(2)(B); and

- (ii) If electing to limit the use pursuant to clause (e)(2)(B)(iii), submit a complete facility-wide Health Risk Assessment prepared using the risk assessment procedures pursuant to Rule 1401 – New Source Review of Toxic Air Contaminants (Rule 1401) and based on the toxic air contaminants pursuant to Rule 1402 – Control of Toxic Air Contaminants From Existing Sources (Rule 1402) that limits the maximum individual cancer risk to 10 in a million or less; and

- (e) (2) (B) Upon issuance of the Permit to Construct, limit the use of any Level II Materials containing pCBtF and t-BAc to:
 - (i) 250 gallons per year in each Air Pollution Control System;
 - (ii) The annual usage limits listed in Table A-1 in Attachment A of this rule, in each Air Pollution Control System, based on the distance from the Air Pollution Control System stack to the nearest Sensitive Receptor; or
 - (iii) The annual usage limits specified in the South Coast AQMD permit based on the approved facility-wide Health Risk Assessment prepared pursuant to clause (e)(2)(A)(ii); and
- (C) Upon issuance of the Permit to Operate:
 - (i) Only use Level II Materials containing pCBtF and t-BAc in an Air Pollution Control System; and
 - (ii) Perform maintenance and keep records pursuant to paragraph (g)(4).
- (3) Compliance Deadline for pCBtF or t-BAc Air Pollution Control Systems
If the owner or operator of a Facility that elected to install an Air Pollution Control System pursuant to paragraph (e)(2), but has not received an approved Permit to Operate for the Air Pollution Control System within four years of submitting a complete South Coast AQMD permit application(s), the owner or operator of a Facility may elect to comply with paragraph (e)(4), but shall no longer use Level II Materials containing pCBtF or t-BAc until compliance with paragraph (e)(4) is achieved.
- (4) Future Effective Timeline for Air Pollution Control Systems for Level II Materials containing pCBtF and t-BAc
Notwithstanding the timeline in paragraph (e)(2), an owner or operator of a Facility electing to install an Air Pollution Control System in lieu of complying with the Level II Material prohibition in paragraph (f)(3) shall:
 - (A) Prior to the use of any Level II Materials containing pCBtF and t-BAc:
 - (i) Possess a South Coast AQMD permit for an Air Pollution Control System that includes permit conditions requiring:
 - (I) An Air Pollution Control Device Efficiency of at least 95 percent removal of VOC emissions, or equivalent mass emissions calculated as carbon with

- (e) (4) (A) (i) (I) no dilution, demonstrated by a source test pursuant to subdivision (h);
- (e) (4) (A) (i) (II) The use or Curing of any Level II Materials containing pCBtF and t-BAc to be conducted within an Air Pollution Control System; and
- (e) (4) (A) (i) (III) A usage limit of any Level II Materials containing pCBtF and t-BAc pursuant to subparagraph (e)(4)(B); and
- (e) (4) (A) (ii) If electing to limit the use pursuant to clause (e)(4)(B)(iii), possess an approved facility-wide Health Risk Assessment prepared using the risk assessment procedures pursuant to Rule 1401 and based on the toxic air contaminants pursuant to Rule 1402 that limits the maximum individual cancer risk to 10 in a million or less; and
- (B) Limit the use of any Level II Materials containing pCBtF and t-BAc to:
 - (i) 250 gallons per year in each Air Pollution Control System;
 - (ii) The annual usage limits listed in Table A-1 in Attachment A of this rule, in each Air Pollution Control System, based on the distance from the Air Pollution Control System stack to the nearest Sensitive Receptor; or
 - (iii) The annual usage limits specified in the South Coast AQMD permit based on the approved facility-wide Health Risk Assessment prepared pursuant to clause (e)(4)(A)(ii); and
- (C) Perform maintenance and keep records pursuant to paragraph (g)(4).
- (5) Low-Use Provision for Level II Materials containing pCBtF and t-BAc
An owner or operator of a Facility electing to comply with a low-use permit condition in lieu of complying with the Level II Material prohibition in paragraph (f)(3) shall:
 - (A) Limit the use of any Level II Materials containing pCBtF or t-BAc at the facility to 1.25 gallons per year and complies with the recordkeeping requirements pursuant to paragraph (g)(5); or

- (e) (5) (B) Submit a complete South Coast AQMD permit application no later than October 3, 2026 to include permit condition(s) that limit the use of any Level II Materials containing pCBtF or t-BAc at the Facility to the annual usage limits listed in Table A-2 in Attachment A, based on the distance from the exhaust stack or nearest edge to the nearest Sensitive Receptor and:
 - (i) Operate in compliance with the facility permit usage limits on and after the date the South Coast AQMD issues the Permit to Operate; and
 - (ii) Comply with the recordkeeping requirements pursuant to paragraph (g)(5).
- (6) Future Effective Timeline for Low-Use Provision for Level II Materials containing pCBtF and t-BAc
Notwithstanding the timeline in paragraph (e)(5), prior to the use of any Level II Materials containing pCBtF and t-BAc, an owner or operator of a Facility electing to comply with a low-use permit condition in lieu of complying with the Level II Material prohibition in paragraph (f)(3) shall:
 - (A) Possess a South Coast AQMD Permit to Operate that includes permit condition(s) limiting the use of any Level II Materials containing pCBtF or t-BAc at the Facility to the applicable annual usage limits listed in Table A-2 in Attachment A, based on the distance from the exhaust stack or nearest edge to the nearest Sensitive Receptor;
 - (B) Operate in compliance with the Facility permit usage limits on and after the date the South Coast AQMD issues the Permit to Operate; and
 - (C) Comply with the recordkeeping requirements pursuant to paragraph (g)(5).
- (7) If the owner or operator of a Facility exceeds the applicable low-use limits in paragraphs (e)(5) or (e)(6), the owner or operator of a Facility may elect to comply with paragraph (e)(4), but shall no longer use Level II Materials containing pCBtF or t-BAc until compliance with paragraph (e)(4) is achieved.

- (f) Prohibition of Possession, Specification, Sale, or Use
 - (1) Level I Material pCBtF and t-BAc Prohibition

No Person shall manufacture, supply, sell, offer for sale, market, blend, distribute, package, or repackage any Level I Material listed in Table 1 or Table 2 for use within the South Coast AQMD, nor shall any owner or operator of a Facility possess, apply, or solicit for use a Level I Material, including any VOC-containing material added to the original Aerospace Material supplied by the manufacturer, that contains pCBtF or t-BAc in concentrations greater than 0.01 percent by weight that was manufactured after the applicable Final Manufacture Date in Table 4 – Level I Materials pCBtF and t-BAc Prohibition Schedule (Table 4).
 - (2) Level I Material Sell-Through and Use-Through

Any Level I Material that is manufactured prior to the applicable Final Manufacture Date in Table 4, that contains more than 0.01 percent of pCBtF and/or t-BAc, may be sold, supplied, or offered for sale until the applicable Sell-Through Dates in Table 4 and may be used until the applicable Use-Through Dates in Table 4.

Table 4 – Level I Materials pCBtF and t-BAc Prohibition Schedule

Categories and their Applicable Subcategories	Final Manufacture Date	Sell-Through Date	Use-Through Date
Adhesives	October 3, 2026	April 3, 2027	April 3, 2028
Sealants			
Lubricants			
Cleaning Solvents			
Strippers			
Adhesion Promoters	April 3, 2028	January 3, 2029	April 3, 2029
Maskants	April 3, 2028	April 3, 2029	April 3, 2030

- (f) (3) Level II Material pCBtF and t-BAc Prohibition
Unless an owner or operator of a Facility meets the requirements in paragraph (e)(2), (e)(4), (e)(5), or (e)(6) no owner or operator of a Facility shall possess or apply any Level II Materials, including any VOC-containing material added to the original Level II Material supplied by the manufacturer, that contains pCBtF or t-BAc in concentrations greater than 0.01 percent by weight that was manufactured after April 3, 2028.
- (4) Level II Material Use-Through
Any Level II Material that is manufactured on or prior to April 3, 2028 , that contains more than 0.01 percent of pCBtF and/or t-BAc, may be possessed or applied until April 3, 2029.
- (g) Administrative and Recordkeeping Requirements
- (1) An owner or operator of a Facility subject to this rule shall maintain records pursuant to the requirements of Rule 109 – Recordkeeping for Volatile Organic Compound Emissions.
- (2) Labeling Requirements for Materials Containing Organic Solvents
A Person shall not manufacture, supply, sell, offer for sale, market, blend, distribute, package, or repackage for use in South Coast AQMD any Aerospace Material unless they are labeled in accordance with South Coast AQMD Rule 443.1 – Labeling of Materials Containing Organic Solvents.
- (3) Labeling Requirements for Alternative PW-MIR VOC Limits
A Person that elects to manufacture, supply, sell, offer for sale, market, blend, distribute, package, or repackage an Adhesion Promoter or Maskant complying with the alternative PW-MIR VOC limits in paragraph (d)(3), shall include the PW-MIR VOC content in g O₃/g product on all containers.
- (4) pCBtF and t-BAc Air Pollution Control Devices
An owner or operator of a Facility that elects to install an Air Pollution Control Device pursuant to paragraph (e)(2) or (e)(4) shall:
- (A) Inspect and maintain all components of the Air Pollution Control Devices in accordance with manufacturer’s specifications; and
- (B) Keep and maintain adequate records to demonstrate compliance with all conditions in a format approved by the South Coast AQMD Executive Officer for a minimum of five years and make available to the South Coast AQMD upon request.

- (g) (5) pCBtF and t-BAc Low-Use Provision
- An owner or operator of a Facility that elects to limit the use of Level II Materials containing pCBtF and t-BAc pursuant to paragraphs (e)(5) or (e)(6) shall maintain:
- (A) Purchase records of each Level II Material containing pCBtF and t-BAc used for the coating application operation;
 - (B) Safety data sheets for each Level II Material containing pCBtF and t-BAc;
 - (C) Daily usage records for each Level II Material containing pCBtF and t-BAc applied or used daily;
 - (D) Application method for each Level II Material containing pCBtF and t-BAc used; and
 - (E) 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.
- (6) Recordkeeping for Facilities complying with paragraph (d)(6)
- An owner or operator of a Facility that elects to comply with paragraph (d)(6) shall maintain:
- (A) Purchase records of each Aerospace Material exceeding the VOC limits in paragraph (d)(1) or (d)(2);
 - (B) Safety data sheets for each Aerospace Material exceeding the VOC limits in paragraph (d)(1) or (d)(2);
 - (C) Application method if the Air Pollution Control System is being used to comply with the Transfer Efficiency requirements in paragraph (d)(5); and
 - (D) All records required by this paragraph 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.
- (7) Recordkeeping for suppliers of Aerospace Materials complying with paragraph (d)(6)
- A Person that supplies, sells, or offers for sale Aerospace Materials to a Facility complying with paragraph (d)(6) shall maintain:

- (g) (7) (A) The written documentation received from the Facility complying with paragraph (d)(6), as required pursuant to subparagraph (d)(6)(B);
 - (B) Sales records for each Aerospace Material exceeding the VOC limits in paragraph (d)(1) or (d)(2) sold to the facility complying with paragraph (d)(6); and
 - (C) All records required by this paragraph for five years and made available within one week to the Executive Officer upon request.
- (h) Source Testing
- (1) Source Test Protocol

An owner or operator of a Facility required to conduct source tests pursuant to paragraph (e)(2) or (e)(4) shall:

 - (A) Submit a source test protocol to the Executive Officer for approval within 90 days of Permit to Construct or Permit to Operate issuance;
 - (B) At least two weeks prior to the scheduled source test, notify the Executive Officer, in writing, of the intent to conduct source testing; and
 - (C) Conduct a source test following the schedule pursuant to paragraph (h)(3) according to the most recently approved protocol.
 - (2) Unless requested by the South Coast AQMD, after the approval of the initial source test protocol, an owner or operator subject to this rule is not required to resubmit a source test protocol for approval unless the Air Pollution Control Device has been altered in a manner that requires a permit application submittal or if the source test contractor has changed since the most recently approved protocol.
 - (3) Source Test Schedule

An owner or operator of a Facility operating an Air Pollution Control Device pursuant to paragraph (e)(2) or (e)(4), shall conduct source tests to determine the Air Pollution Control Device Efficiency according to the following schedule:

 - (A) Conduct an initial source test within 180 days from operating an Air Pollution Control Device or within 30 days from receiving an approved source test protocol pursuant to paragraph (h)(1), whichever is later; and

- (h)
 - (3) (B) Perform a source test every 36 months from the date of the most recent source test.
 - (4) An owner or operator of a Facility operating an Air Pollution Control Device pursuant to paragraphs (e)(2) or (e)(4) shall conduct all source tests:
 - (A) Using a South Coast AQMD approved source test protocol pursuant to paragraph (h)(1);
 - (B) During application of Level II Materials containing pCBtF or t-BAC; and
 - (C) Normal operating conditions.
 - (5) All source tests shall be conducted by a source test contractor and laboratory that is approved by the Executive Officer under the Laboratory Approval Program for the applicable test methods.
 - (6) Records of source tests shall be maintained for five years and shall be made available to South Coast AQMD upon request.
- (i) Test Methods
 - (1) VOC Content of Aerospace Materials

The VOC content of Aerospace Materials shall be determined by the following methods:

 - (A) United States Environmental Protection Agency (U.S. EPA) Reference Method 24 Determination of Volatile Matter Content, Water Content, Density Volume Solids, and Weight Solids of Surface Coatings, Code of Federal Regulations Title 40, Part 60, Appendix A with the Exempt Compounds' content determined by South Coast AQMD Test Methods 303 – Determination of Exempt Compounds;
 - (B) South Coast AQMD Test Method 304 – Determination of Volatile Organic Compounds in Various Materials; or
 - (C) South Coast AQMD Test Method 313 – Determination of Volatile Organic Compounds by Gas Chromatography Mass Spectrometry.
 - (2) Exempt Perfluorocarbon Compounds

The following classes of compounds shall be analyzed as Exempt Compounds for compliance with paragraphs (d)(1) and (d)(2), provided that manufacturers specify which individual compounds are used in the Aerospace Materials formulations and identify the test methods, which have to be approved by the U.S. EPA, California Air Resources Board (CARB),

- (i) (2) and the South Coast AQMD, that can be used to quantify the amounts of each Exempt Compound:
 - (A) Cyclic, branched, or linear, completely fluorinated alkanes;
 - (B) Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
 - (C) Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and
 - (D) Sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.
- (3) Acid Content in Pretreatment Wash Primers

The acid content of Pretreatment Wash Primers shall be determined by ASTM Test Method D1613 – Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products.
- (4) Air Pollution Control System Control Efficiency Determination

An owner or operator of a Facility that elects to comply with the VOC limits in paragraphs (d)(1) and/or (d)(2) using an Air Pollution Control Device pursuant to paragraph (d)(6) or elects to comply with the Level II Materials prohibition in paragraph (f)(3) using an Air Pollution Control Device pursuant to paragraph (e)(2) or (e)(4) shall:

 - (A) Determine the efficiency of the control device by:
 - (i) South Coast AQMD’s “Protocol for Determination of Volatile Organic Compounds (VOC) Capture Efficiency”;
 - or
 - (ii) Any other test method approved by the U.S. EPA, CARB, and the South Coast AQMD Executive Officer; and
 - (B) Determined the efficiency and the VOC concentration in the Air Pollution Control Device Efficiency exhaust gases, measured and calculated as carbon by:
 - (i) U.S. EPA Method 25 – Determination of Total Gaseous Nonmethane Organic Emissions as Carbon;
 - (ii) U.S. EPA Method 25A – Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer;
 - (iii) South Coast AQMD Test Method 25.1 – Determination of Total Gaseous Non-Methane Organic Emissions as Carbon;
 - or

- (i) (4) (B) (iv) South Coast AQMD Test Method 25.3 – Determination of Low Concentration Non-Methane Non-Ethane Organic Compound Emissions from Clean Fueled Combustion Sources.
- (5) Transfer Efficiency
The Transfer Efficiency of alternative application methods, as defined by paragraph (c)(81), shall be determined in accordance with the most current versions of the South Coast AQMD methods:
 - (A) "Spray Equipment Transfer Efficiency Test Procedure for Equipment User;" and
 - (B) "Guidelines for Demonstrating Equivalency With District Approved Transfer Efficiency Spray Gun."
- (6) VOC Composite Vapor Pressure
The identity and quantity of components in solvents shall be determined in accordance with South Coast AQMD Test Method 308 – Quantitation of Compounds by Gas Chromatography and the VOC Composite Vapor Pressure shall be calculated using the equation in paragraph (c)(84).
- (7) Multiple Test Methods
When more than one test method or set of test methods are specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of the rule.
- (8) Equivalent Test Methods
Other test methods determined to be equivalent and approved by the U.S. EPA, CARB, and the South Coast AQMD Executive Officer, and approved in writing by the South Coast AQMD Executive Officer may also be used.
- (j) Rule 442 Applicability
Any owner or operator of a Facility who uses an Aerospace Material that is exempt from the VOC limits in this rule, shall comply with the provisions of Rule 442 – Usage of Solvents.

(k) Exemptions

- (1) The VOC limits specified in paragraphs (d)(1) or (d)(2) shall not apply to Aerospace Materials, exclusive of Adhesives, with separate formulations that are used in volumes of less than 20 gallons per year provided that the total of such formulations applied annually by a Facility is less than 200 gallons.
- (2) The provisions of subdivision (d) of this rule shall not apply to a Facility which uses a total of less than three gallons of VOC-containing materials on each and every day of operation.
- (3) The provisions of paragraphs (d)(1) and (d)(5) of this rule shall not apply to incidental corrosion maintenance Repair Coating operations at military facilities, provided that the coating use at any maintenance repair location within the Facility does not exceed 1.5 gallons per day, and the total coating usage for such operations at the Facility does not exceed five gallons per day.
- (4) The VOC limits specified in paragraph (d)(2) for Cleaning Solvents and Strippers shall not apply to Space-Vehicle manufacturing.
- (5) The provisions of paragraph (d)(1) shall not apply to clear or translucent coatings applied on clear or transparent substrates.
- (6) The provisions of paragraph (d)(5) shall not apply to Touch-Up and Stencil Coatings.
- (7) The provisions of paragraph (d)(1) shall not apply to the recoating of assembled Aircraft at Rework facilities if original coating formulations are used.
- (8) The provisions of paragraph (d)(1) shall not apply to Adhesives with separate formulations that are used in volumes of less than ten gallons per year.
- (9) The provisions of paragraph (d)(5) shall not be applied to the application of materials marking coatings, which are coatings or techniques used to place permanent identification marks on Aerospace Components and parts.
- (10) The provisions of subdivisions (d) and (f) shall not apply to Aerospace Materials which are applied to test specimens in Facility laboratories for purposes of research, development, quality control, and testing for production-related operations.
- (11) The provisions of subdivision (d) shall not apply to the application of Temporary Marking Coatings.

- (k) (12) The VOC limits for solvents shall not apply to the surface cleaning of solar cells, fluid systems, avionic equipment, and laser optics.
- (13) The provisions of subdivision (g) and paragraph (d)(5) shall not apply to the application of materials that contain less than 20 g/L of VOC per liter of material.
- (14) The provisions of paragraph (d)(5) shall not apply to the use of materials dispensed from airbrush operations.
- (15) The provisions of this rule shall not apply to:
 - (A) Aerosol Coating Products; or
 - (B) Aerospace Materials expressly and exclusively offered for sale, sold, or manufactured for use outside of the South Coast AQMD.
- (16) The prohibitions of possessing and repackaging Aerospace Materials in paragraphs (f)(1), (f)(3), and (f)(4) shall not apply to Aerospace Materials that are:
 - (A) Shipped into the South Coast AQMD to be reformulated or repackaged for sale and use outside of the South Coast AQMD; or
 - (B) Temporarily being stored at a Facility and marked for use outside the South Coast AQMD jurisdiction.

ATTACHMENT A

Usage Limits for Level II Materials containing pCBtF or t-BAC

TABLE A-1: Annual Usage Limits for Facilities with an Approved Air Pollution Control System

Sensitive Receptor Distance (meters)	Annual Usage Limits (Gallons Per Year)
0 to 25	250
26 to 50	1,000
51 to 75	1,700
76 to 100	2,500
101 to 125	3,200
126 to 150	3,800
151 to 175	6,000
176 or Greater	10,000

TABLE A-2: Annual Usage Limits for Facilities without an Air Pollution Control System

Sensitive Receptor Distance (meters)	Annual Usage Limits (Gallons Per Year)
0 to 25	1.25
26 to 50	4.5
51 to 75	7.5
76 to 100	11
101 to 125	14.5
126 to 150	18
151 to 175	26.5
176 or Greater	46