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**TITLE 326 AIR POLLUTION CONTROL BOARD****Emergency Rule**  
LSA Document #09-700(E)**DIGEST**

Temporarily adds new provisions to address volatile organic compounds (VOC) reasonably available control technology (RACT) in Lake County and Porter County for aerospace manufacturing and rework operations. Authority: [IC 4-22-2-37.1\(a\)\(13\)](#). Effective September 3, 2009.

**SECTION 1. Applicability. (a) Except as provided in subsections (b) and (c), this document applies to the manufacture or rework of commercial, civil, or military aerospace vehicles or components at sources that meet the following criteria:**

- (1) Are located in Lake County or Porter County.
- (2) Have the potential to emit volatile organic compounds (VOC) equal to or greater than twenty-five (25) tons per year for all coating and cleaning operations combined where aerospace components and vehicles are coated and cleaned. The activities, operations, and materials described in subsections (b) and (c) are not included in the determination of potential to emit for VOC.

**(b) This document does not apply to the following activities where cleaning and coating of aerospace components and vehicles may take place:**

- (1) Research and development.
- (2) Quality control.
- (3) Laboratory testing.
- (4) Electronic parts and assemblies, except for cleaning and coating of completed assemblies.

**(c) This document does not apply to manufacturing or rework operations involving space vehicles or rework operations performed on antique aerospace vehicles or components.**

**SECTION 2. Definitions. The following definitions apply throughout this document:**

- (1) "Ablative coating" means a coating that chars when exposed to open flame or extreme temperatures, as would occur during the failure of an engine casing or during aerodynamic heating. The ablative char surface serves as an insulative barrier, protecting adjacent components from the heat or open flame.
- (2) "Adhesion promoter" means a very thin coating applied to a substrate to promote wetting and form a chemical bond with the subsequently applied material.
- (3) "Adhesive bonding primer" means a primer applied in a thin film to aerospace components for the purpose of corrosion inhibition and increased adhesive bond strength by attachment. There are two (2) categories of adhesive bonding primers:
  - (A) Primers with a design cure at two hundred fifty (250) degrees Fahrenheit or below.
  - (B) Primers with a design cure above two hundred fifty (250) degrees Fahrenheit.
- (4) "Aerosol coating" means a hand-held, pressurized, nonrefillable container that expels an adhesive or a coating in a finely divided spray when a valve on the container is depressed.
- (5) "Aerospace vehicle or component" means any fabricated part, processed part, assembly of parts, or completed unit, with the exception of electronic components, of any aircraft, including, but not limited to, the following:
  - (A) Airplanes.
  - (B) Helicopters.
  - (C) Missiles.
  - (D) Rockets.
  - (E) Space vehicles.
- (6) "Aircraft fluid systems" means those systems that handle hydraulic fluids, fuel, cooling fluids, or oils.
- (7) "Aircraft transparency" means the aircraft windshield, canopy, passenger windows, lenses, and other components that are constructed of transparent materials.
- (8) "Antichafe coating" means a coating applied to areas of moving aerospace components that may rub during normal operations or installation.
- (9) "Antique aerospace vehicle or component" means an aircraft or component thereof that was built at least thirty (30) years ago. An antique aerospace vehicle would not routinely be in commercial or military service in the capacity for which it was designed.

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

(11) "Bearing coating" means a coating applied to an antifriction bearing, a bearing housing, or the area adjacent to such a bearing in order to facilitate bearing function or to protect base material from excessive wear. A material shall not be classified as a bearing coating if it can also be classified as a dry lubricative material or a solid film lubricant.

(12) "Bonding maskant" means a temporary coating used to protect selected areas of aerospace parts from strong acid or alkaline solutions during processing for bonding.

(13) "Caulking and smoothing compounds" means semisolid materials that are:

(A) applied by hand application methods; and

(B) used to aerodynamically smooth exterior vehicle surfaces or fill cavities, such as bolt hole accesses.

A material shall not be classified as a caulking and smoothing compound if it can also be classified as a sealant.

(14) "Chemical agent resistant coating" or "CARC" means an exterior topcoat designed to withstand exposure to chemical warfare agents or the decontaminants used on these agents.

(15) "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. The term 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 Type II etchants and bonding, critical use and line sealer, or seal coat maskants are not included. The term does not include maskants that are defined as specialty coatings.

(16) "Cleaning operations" means collectively spray gun, hand wipe, and flush cleaning operations.

(17) "Cleaning solvent" means a liquid material used for hand wipe, spray gun, or flush cleaning. The term does not include solutions that contain no VOC.

(18) "Clear coating" means a transparent coating usually applied over a colored opaque coating, metallic substrate, or placard to give improved gloss and protection to the color coat. In some cases, a clearcoat refers to any transparent coating without regard to substrate.

(19) "Coating" means a material that is applied to the surface of an aerospace vehicle or component to form a decorative, protective, or functional solid film or the solid film itself.

(20) "Coating operation" means using a spray booth, tank, or other enclosure or any area, such as a hangar, for applying a single type of coating, for example, primer. Using the same spray booth for applying another type of coating, for example, topcoat, constitutes a separate coating operation for which compliance determinations are performed separately.

(21) "Coating unit" means a series of one (1) or more coating applicators and any associated drying area or oven, or both, wherein a coating is applied, dried, or cured or any combination of those. A coating unit ends at the point where the coating is dried or cured or prior to any subsequent application of a different coating. It is not necessary to have an oven or flashoff area to be included in the term.

(22) "Commercial exterior aerodynamic structure primer" means a primer used on aerodynamic components and structures that protrude from the fuselage, such as:

(A) wings and attached components;

(B) control surfaces;

(C) horizontal stabilizers;

(D) vertical fins;

(E) wing-to-body fairings;

(F) antennae;

(G) landing gear; and

(H) doors;

for the purpose of extended corrosion protection and enhanced adhesion.

(23) "Commercial interior adhesive" means materials used in the bonding of passenger cabin interior components. These components must meet the U.S. Federal Aviation Administration (FAA) fireworthiness requirements.

(24) "Compatible substrate primer" means either compatible epoxy primer or adhesive primer.

Compatible epoxy primer is primer that is compatible with the filled elastomeric coating and is epoxy based. The compatible substrate primer is an epoxy polyamide primer used to promote adhesion of elastomeric coatings, such as impact resistant coatings. Adhesive primer is a coating that:

(A) inhibits corrosion and serves as a primer applied to bare metal surfaces or prior to adhesive application; or

(B) is applied to surfaces that can be expected to contain fuel.

The term does not include fuel tank coatings.

(25) "Confined space" means a space that:

(A) is large enough and so configured that an employee can bodily enter and perform assigned work;

(B) has limited or restricted means for entry or exit, for example, fuel tanks, fuel vessels, and other spaces that have limited means of entry; and

(C) is not suitable for continuous employee occupancy.

(26) "Corrosion prevention system" means a coating system that provides corrosion protection by displacing water and penetrating mating surfaces, forming a protective barrier between the metal surface and moisture. The term does not include coatings containing oils or waxes.

(27) "Critical use and line sealer maskant" means a temporary coating, not covered under other maskant categories, used to protect selected areas of aerospace parts from strong acid or alkaline solutions, such as those used in:

(A) anodizing;

(B) plating;

(C) chemical milling; and

(D) processing;

of magnesium, titanium, or high strength steel, high precision aluminum chemical milling of deep cuts, and aluminum chemical milling of complex shapes. The term includes materials used for repairs or to bridge gaps left by scribing operations, for example, line sealer.

(28) "Cryogenic flexible primer" means a primer designed to provide corrosion resistance, flexibility, and adhesion of subsequent coating systems when exposed to loads up to and surpassing the yield point of the substrate at cryogenic temperatures (negative two hundred seventy-five (-275) degrees Fahrenheit and below).

(29) "Cryoprotective coating" means a coating that insulates cryogenic or subcooled surfaces to limit propellant boil off, maintain structural integrity of metallic structures during ascent or reentry, and prevent ice formation.

(30) "Cyanoacrylate adhesive" or "super glue" means a fast setting, single component adhesive that cures at room temperature.

(31) "Dry lubricative material" means a coating consisting of lauric acid, cetyl alcohol, waxes, or other noncross linked or resin bound materials that act as a dry lubricant.

(32) "Electric or radiation effect coating" means a coating or coating system engineered to interact, through absorption or reflection, with specific regions of the electromagnetic energy spectrum, such as the ultraviolet, visible, infrared, or microwave regions. Uses include, but are not limited to, the following:

(A) Lightning strike protection.

(B) Electromagnetic pulse (EMP) protection.

(C) Radar avoidance.

Coatings that have been designated as "classified" by the U.S. Department of Defense are exempt.

(33) "Electrostatic discharge and electromagnetic interference (EMI) coating" means a coating applied to:

(A) space vehicles;

(B) missiles;

(C) aircraft radomes; and

(D) helicopter blades;

to disperse static energy or reduce electromagnetic interference.

(34) "Elevated temperature Skydrol resistant commercial primer" means a primer applied primarily to commercial aircraft (or commercial aircraft adapted for military use) that must withstand immersion in phosphate ester (PE) hydraulic fluid (Skydrol 500b or equivalent) at the elevated temperature of one hundred fifty (150) degrees Fahrenheit for one thousand (1,000) hours.

(35) "Epoxy polyamide topcoat" means a coating used where harder films are required or in some areas where engraving is accomplished in camouflage colors.

(36) "Exempt solvent" means a specified organic compound that has been determined by U.S. EPA to have negligible photochemical reactivity and is listed in 40 CFR 51.100\*.

(37) "Fire resistant (interior) coating" means, for civilian aircraft, fire resistant interior coatings that are used on passenger cabin interior parts that are subject to the U.S. Federal Aviation Administration (FAA) fireworthiness requirements. For military aircraft, fire resistant interior coatings are used on parts that are subject to the flammability requirements of MIL-STD-1630A and MIL-A-87721. For space applications, these coatings are used on parts that are subject to the flammability requirements of SE-R-0006 and SSP 30233.

(38) "Flexible primer" means a primer that meets flexibility requirements, such as those needed for

adhesive bond primed fastener heads or on surfaces expected to contain fuel. The flexible coating is required because it provides a compatible, flexible substrate over bonded sheet rubber and rubber type coatings as well as a flexible bridge between the fasteners, skin, and skin-to-skin joints on outer aircraft skins. This flexible bridge:

- (A) allows more topcoat flexibility around fasteners; and
- (B) decreases the chance of the topcoat cracking around the fasteners.

The result is better corrosion resistance.

(39) "Flight test coating" means a coating applied to aircraft other than missiles or single use aircraft prior to flight testing to:

- (A) protect the aircraft from corrosion; and
- (B) provide required marking during flight test evaluation.

(40) "Flush cleaning" means removal of contaminants, such as dirt, grease, oil, and coatings, from an aerospace vehicle or component or coating equipment by passing solvent over, into, or through the item being cleaned. The solvent may simply be poured into the item being cleaned and then drained, or assisted by air or hydraulic pressure, or by pumping. The term does not include hand wipe cleaning operations where wiping, scrubbing, mopping, or other hand actions are used.

(41) "Fuel tank adhesive" means an adhesive used to bond components exposed to fuel and must be compatible with fuel tank coatings.

(42) "Fuel tank coating" means a coating applied to fuel tank components:

- (A) for the purpose of corrosion or bacterial, or both, growth inhibition; and
- (B) to assure sealant adhesion in extreme environmental conditions.

(43) "Grams of VOC per liter of coating (less water and less exempt solvent)" means the weight of VOC per combined volume of total volatiles and coating solids, less water and exempt compounds, and can be calculated by the following equation:

$$\text{Grams of VOC per liter of coating} = (W_s - W_w - W_{es}) \div (V_s - V_w - V_{es}) \text{ (less water and less exempt solvent)}$$

Where:	$W_s$	=	weight of total volatiles in grams
	$W_w$	=	weight of water in grams
	$W_{es}$	=	weight of exempt compounds in grams
	$V_s$	=	volume of coating in liters
	$V_w$	=	volume of water in liters
	$V_{es}$	=	volume of exempt compounds in liters

(44) "Hand wipe cleaning operation" means removing contaminants, such as dirt, grease, oil, and coatings, from an aerospace vehicle or component by physically rubbing it with a material, such as a rag, paper, or a cotton swab, that has been moistened with a cleaning solvent.

(45) "High temperature coating" means a coating designed to withstand temperatures of more than three hundred fifty (350) degrees Fahrenheit.

(46) "High volume low pressure (HVLP) spray equipment" means spray equipment that is used to apply coating by means of a spray gun that operates at ten and zero-tenths (10.0) psig of atomizing air pressure or less at the air cap.

(47) "Insulation covering" means material that is applied to foam insulation to protect the insulation from mechanical or environmental damage.

(48) "Intermediate release coating" means a thin coating applied beneath topcoats to:

- (A) assist in removing the topcoat in depainting operations; and
- (B) generally, allow the use of less hazardous depainting methods.

(49) "Lacquer" means a clear or pigmented coating formulated with a nitrocellulose or synthetic resin to dry by evaporation without a chemical reaction. Lacquers are resolvable in their original solvent.

(50) "Leak" means any visible leakage, including misting and clouding.

(51) "Limited access space" means internal surfaces or passages of an aerospace vehicle or component that cannot be reached without the aid of an airbrush or a spray gun extension for the application of coatings.

(52) "Metalized epoxy coating" means a coating that contains relatively large quantities of metallic pigmentation for appearance or added protection, or both.

(53) "Mold release" means a coating applied to a mold surface to prevent the molded piece from sticking to the mold as it is removed.

(54) "Nonstructural adhesive" means an adhesive that:

- (A) bonds nonload bearing aerospace components in noncritical applications; and

(B) is not covered in any other specialty adhesive categories.

(55) "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 (1) or more other operating parameter values, determines that an owner or operator has continued to comply with an applicable emission limitation.

(56) "Optical antireflection coating" means a coating with a low reflectance in the infrared and visible wavelength ranges that is used for antireflection on or near optical and laser hardware.

(57) "Part marking coating" means coatings or inks used to make identifying markings on materials, components, or assemblies or any combination. These markings may be either permanent or temporary.

(58) "Pretreatment coating" means an organic coating that:

(A) contains at least five-tenths percent (0.5%) acids by weight; and

(B) is applied directly to metal or composite surfaces to provide:

- (i) surface etching;
- (ii) corrosion resistance;
- (iii) adhesion; and
- (iv) ease of stripping.

(59) "Primer" means the first layer and any subsequent layers of identically formulated coating applied to the surface of an aerospace vehicle or component. Primers are typically used for the following:

- (A) Corrosion prevention.
- (B) Protection from the environment.
- (C) Functional fluid resistance.
- (D) Adhesion of subsequent coatings.

The term does not include primers that are defined as specialty coatings.

(60) "Radome" means the nonmetallic protective housing for electromagnetic transmitters and receivers, for example, radar, electronic countermeasures.

(61) "Rain erosion-resistant coating" means a coating or coating system used to protect the leading edges of parts, such as:

- (A) flaps;
- (B) stabilizers;
- (C) radomes; and
- (D) engine inlet nacelles;

against erosion caused by rain impact during flight.

(62) "Research and development" means an operation:

(A) whose primary purpose is for research and development of new processes and products; and

(B) that is:

- (i) conducted under the close supervision of technically trained personnel; and
- (ii) not involved in the manufacture of final or intermediate products for commercial purposes, except in a de minimis manner.

(63) "Rocket motor bonding adhesive" means an adhesive used in rocket motor bonding applications.

(64) "Rocket motor nozzle coating" means a catalyzed epoxy coating system used in elevated temperature applications on rocket motor nozzles.

(65) "Rubber based adhesive" means a quick setting contact cement that provides a strong yet flexible bond between two (2) mating surfaces that may be of dissimilar materials.

(66) "Scale inhibitor" means a coating that is applied to the surface of a part prior to thermal processing to inhibit the formation of scale.

(67) "Screen print ink" means an ink used in screen printing processes during fabrication of decorative laminates and decals.

(68) "Sealant" means a material used to prevent the intrusion of water, fuel, air, or other liquids or solids from certain areas of aerospace vehicles or components. There are two (2) categories of sealants as follows:

- (A) Extrudable, rollable, or brushable sealants.
- (B) Sprayable sealants.

(69) "Seal coat maskant" means an overcoat applied over a maskant to improve abrasion and chemical resistance during production operations.

(70) "Self priming topcoat" means a topcoat that is applied directly to an uncoated aerospace vehicle or component for purposes of:

- (A) corrosion prevention;
- (B) environmental protection; and

(C) functional fluid resistance.

More than one (1) layer of identical coating formulation may be applied to the vehicle or component.

(71) "Semiaqueous cleaning solvent" means a solution in which water is a primary ingredient. More than sixty percent (60%) of the solvent solution as applied must be water.

(72) "Silicone insulation material" means an insulating material applied to exterior metal surfaces for protection from high temperatures caused by atmospheric friction or engine exhaust. These materials differ from ablative coatings in that they are not sacrificial.

(73) "Solid film lubricant" means a very thin coating consisting of a binder system containing as its chief pigment material one (1) or more of the following:

(A) Molybdenum.

(B) Graphite.

(C) Polytetrafluoroethylene (PTFE).

(D) Other solids that act as a dry lubricant between faying, for example, closely or tightly fitting, surfaces.

(74) "Solids" means the nonvolatile portion of the coating that after drying makes up the dry film.

(75) "Space vehicle" means a man-made device, either manned or unmanned, designed for operation beyond earth's atmosphere. The term includes the following:

(A) Integral equipment such as the following:

(i) Models.

(ii) Mockups.

(iii) Prototypes.

(iv) Molds.

(v) Jigs.

(vi) Tooling.

(vii) Hardware jackets.

(viii) Test coupons.

(B) Auxiliary equipment associated with test, transport, and storage, that through contamination can compromise the space vehicle performance.

(76) "Specialized function coating" means a coating that fulfills extremely specific engineering requirements that are limited in application and are characterized by low volume usage. The term does not include coatings covered in other specialty coating categories.

(77) "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, the following:

(A) Temperature or fire resistance.

(B) Substrate compatibility.

(C) Antireflection.

(D) Temporary protection or marking.

(E) Sealing.

(F) Adhesively joining substrates.

(G) Enhanced corrosion protection.

(78) "Spray gun" means a device that:

(A) atomizes a coating or other material; and

(B) projects the particulates or other material onto a substrate.

(79) "Structural autoclavable adhesive" means an adhesive used to bond load carrying aerospace components that is cured by heat and pressure in an autoclave.

(80) "Structural nonautoclavable adhesive" means an adhesive cured under ambient conditions that is used to bond load carrying aerospace components or other critical functions, such as nonstructural bonding in the proximity of engines.

(81) "Surface preparation" means the:

(A) removal of contaminants from the surface of an aerospace vehicle or component; or

(B) activation or reactivation of the surface in preparation for the application of a coating.

(82) "Temporary protective coating" means a coating applied to provide scratch or corrosion protection during manufacturing, storage, or transportation. Two (2) types include peelable protective coatings and alkaline removable coatings. These materials are not intended to protect against strong acid or alkaline solutions. The term does not include coatings that provide this type of protection from chemical processing.

(83) "Thermal control coating" means a coating formulated with specific thermal conductive or radiative properties to permit temperature control of the substrate.

(84) "Topcoat" means a coating that is applied over a primer on an aerospace vehicle or component

for:

- (A) appearance;
- (B) identification;
- (C) camouflage; or
- (D) protection.

The term does not include topcoats that are defined as specialty coatings.

(85) "Touch-up and repair coating" means a coating used to cover minor coating imperfections appearing after the main coating operation.

(86) "Touch-up and repair operation" means that portion of the coating operation that is the incidental application of coating used to:

- (A) cover minor imperfections in the coating finish; or
- (B) achieve complete coverage.

The term includes out of sequence or out of cycle coating.

(87) "VOC composite vapor pressure" means the sum of the partial pressures of the compounds defined as VOCs and is determined by the following calculation:

[sic]

- Where:
- $W_i$  = Weight of the "i"th VOC compound, grams.
  - $W_w$  = Weight of water, grams.
  - $W_e$  = Weight of nonwater, non-VOC compound, grams.
  - $MW_i$  = Molecular weight of the "i"th VOC compound, g/g-mole.
  - $MW_w$  = Molecular weight of water, g/g-mole.
  - $MW_e$  = Molecular weight of exempt compound, g/g-mole.
  - $PP_c$  = VOC composite partial pressure at 20°C, mmHg.
  - $VP_i$  = Vapor pressure of the "i"th VOC compound at 20°C, mmHg.

(88) "Waterborne (water reducible) coating" means a coating that contains more than five percent (5%) water by weight as applied in its volatile fraction.

(89) "Wet fastener installation coating" means a primer or sealant applied by dipping, brushing, or daubing to fasteners that are installed before the coating is cured.

(90) "Wing coating" means a corrosion resistant topcoat that is resilient enough to withstand the flexing of the wings.

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SECTION 3. VOC emissions control requirements. (a) The owner or operator of a source that is subject to this document shall not apply to aerospace vehicles or components any coatings, including any VOC containing materials added to the original coating supplied by the manufacturer, that contain VOC in excess of the limits specified as follows:

VOC Content Limit for Primers, Topcoats, and Chemical Milling Maskants (lbs/gallon)<sup>a</sup>

Coating Type	Limit
Primer	2.9
Primer for general aviation rework	4.5
Exterior primer for large commercial aircraft (components or fully assembled)	5.4
Topcoat	3.5
Topcoat for general aviation rework	4.5
Self-priming topcoat	3.5
Self-priming topcoat for general aviation rework	4.5
Chemical milling maskant, type I	5.2
Chemical milling maskant, type II	1.3

<sup>a</sup>Coating limits expressed in terms of pounds of VOC per gallon of coating less water and less exempt solvent.

VOC Content Limits for Specialty Coatings (g/L)<sup>b</sup>

Coating Type	Limit	Coating Type	Limit
Ablative coating	600	Flight test coatings:	
Adhesion promoter	890	Missile or single use aircraft	420
Adhesive bonding primers:		All other	840
Cured at 250°F or below	850	Fuel tank coating	720
Cured above 250°F	1030	High temperature coating	850
Adhesives:		Insulation covering	740
Commercial interior adhesive	760	Intermediate release coating	750
Cyanoacrylate adhesive	1020	Lacquer	830
Fuel tank adhesive	620	Maskants:	
Nonstructural adhesive	360	Bonding maskant	1230
Rocket motor bonding adhesive	890	Critical use and line sealer maskant	1020
Rubber based adhesive	850	Seal coat maskant	1230
Structural autoclavable adhesive	60	Metallized epoxy coating	740
Structural nonautoclavable adhesive	850	Mold release	780
Antichafe coating	660	Optical antireflective coating	750
Bearing coating	620	Part marking coating	850
Caulking and smoothing compounds	850	Pretreatment coating	780
Chemical agent resistant coating	550	Rain erosion resistant coating	850
Clear coating	720	Rocket motor nozzle coating	660
Commercial exterior aerodynamic structure primer	650	Scale inhibitor	880
Compatible substrate primer	780	Screen print ink	840
Corrosion prevention compound	710	Sealants:	
Cryogenic flexible primer	645	Extrudable/rollable/brushable sealant	280
Dry lubricative material	880	Sprayable sealant	600
Cryoprotective coating	600	Silicone insulation material	850
Electric or radiation effect coating	800	Solid film lubricant	880
Electrostatic discharge and electromagnetic interference (EMI) coating	800	Specialized function coating	890
Elevated temperature Skydrol resistant commercial primer	740	Temporary protective coating	320
Epoxy polyamide topcoat	660	Thermal control coating	800
Fire resistant (interior) coating	800	Wet fastener installation coating	675
Flexible primer	640	Wing coating	850

<sup>b</sup>Coating limits expressed in terms of mass (grams) of VOC per volume (liters) of coating less water and less exempt solvent.

- (b) The following coating applications are exempt from the VOC content limits listed in subsection (a):
- (1) Touch-up, aerosol, and U.S. Department of Defense "classified" coatings.
  - (2) Coating of space vehicles.
  - (3) Facilities that use separate formulations in volumes of less than fifty (50) gallons per year subject to a maximum exemption of two hundred (200) gallons total for such formulations applied annually.
- (c) The broad categories of primers, topcoats (including self priming topcoats), and chemical milling maskants (Type I or II) are not specialty coatings as listed in the table in subsection (a). The requirements



do not apply to facilities that use separate formulations of primers, topcoats, and chemical milling maskants (Type I or II) in volumes of less than fifty (50) gallons per year, subject to a maximum exemption of two hundred (200) gallons total for such formulations applied annually.

**SECTION 4. Application equipment.** (a) The owner or operator of a source that is subject to this document shall use one (1) or more of the following application techniques in applying any primer or topcoat to aerospace vehicles or components:

- (1) Flow or curtain coat.
- (2) Dip coat.
- (3) Roll coating.
- (4) Brush coating.
- (5) Cotton tipped swab application.
- (6) Electrodeposition coating.
- (7) High volume low pressure (HVLP) spraying.
- (8) Electrostatic spray.
- (9) Other coating application methods that achieve emission reductions equivalent to HVLP or electrostatic spray application methods.

(b) The following situations are exempt from application equipment requirements listed in subsection (a):

- (1) Any situation that normally requires the use of an airbrush or an extension on the spray gun to properly reach limited access spaces.
- (2) The application of specialty coatings.
- (3) The application of coatings that:
  - (A) contain fillers that adversely affect atomization with HVLP spray guns; and
  - (B) the permitting agency has determined cannot be applied by any of the application methods specified in subsection (a).
- (4) The application of coatings that:
  - (A) normally have a dried film thickness of less than thirteen ten-thousandths (0.0013) centimeter (five ten-thousandths (0.0005) inch); and
  - (B) the permitting agency has determined cannot be applied by any of the application methods specified in subsection (a).
- (5) The use of airbrush application methods for stenciling, lettering, and other identification markings.
- (6) The use of handheld spray can application methods.
- (7) Touch-up and repair operations.

**SECTION 5. Solvent cleaning.** The owner or operator of a source that is subject to this document shall comply with the following solvent cleaning requirements:

- (1) Cleaning solvents used in hand wipe cleaning operations shall:
  - (A) meet the definition of aqueous cleaning solvent; or
  - (B) have a VOC composite vapor pressure less than or equal to forty-five (45) mmHg at twenty (20) degrees Celsius.
- (2) The cleaning operations in the aerospace NESHAP at 40 CFR 63.744(e)\* are exempt from the requirements in subdivision (1).
- (3) Cleaning solvents used in the flush cleaning of parts, assemblies, and coating unit components shall 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 in subdivision (5).
- (4) All spray guns must be cleaned by one (1) or more of the methods in the aerospace NESHAP at 40 CFR 63.744(c)(1) through 40 CFR 63.744(c)(5)\*.
- (5) All fresh and used cleaning solvents, except semiaqueous cleaning solvents, used in solvent cleaning operations shall be stored in containers that shall be kept closed at all times except when filling or emptying. The owner or operator shall implement handling and transfer procedures to minimize spills during filling and transferring the cleaning solvent to or from enclosed systems, vats, waste containers, and other cleaning operation equipment that holds or stores fresh or used cleaning solvents. The following are exempt from requirements in this subdivision:
  - (A) Aqueous cleaning solvents.
  - (B) Cotton tipped swabs used for very small cleaning operations.

\*This document is incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the

**SECTION 6. Control equipment and monitoring.** (a) As an alternative to complying with the VOC content limits in SECTION 3(a) of this document, an owner or operator may achieve compliance with this document by using approved air pollution control equipment provided that the control system has combined VOC emissions capture and control equipment efficiency of at least eighty-one percent (81%) by weight.

(b) Each owner or operator shall submit a monitoring plan that specifies the applicable operating parameter value, or range of values, to ensure ongoing compliance with subsection (a). The monitoring device shall be:

- (1) installed;
- (2) calibrated;
- (3) operated; and
- (4) maintained;

in accordance with the manufacturer's specifications.

(c) 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.

**SECTION 7. Compliance schedule.** The owner or operator of any source subject to this document shall achieve final compliance with the requirements of this document no later than April 1, 2011, or upon startup for new sources.

**SECTION 8. Record keeping requirements.** (a) Each owner or operator using coatings listed in SECTION 3(a) of this document shall do the following:

- (1) Maintain a current list of coatings in use with category and volatile organic compound content as applied.
- (2) Record coating usage on an annual basis.

(b) Each owner or operator using cleaning solvents required in SECTION 5 of this document shall do the following:

- (1) For aqueous and semiaqueous hand wipe cleaning solvents, maintain a list of materials used with corresponding water contents.
- (2) For vapor pressure compliant hand wipe cleaning solvents, do the following:
  - (A) Maintain a current list of cleaning solvents in use with their respective vapor pressures or, for blended solvents, VOC composite vapor pressures.
  - (B) Record cleaning solvent usage on an annual basis.
- (3) For cleaning solvents with a vapor pressure greater than forty-five (45) mmHg used in exempt hand wipe cleaning operations, do the following:
  - (A) Maintain a list of exempt hand wipe cleaning processes.
  - (B) Record cleaning solvent usage on an annual basis.

(c) Each owner or operator using control equipment under SECTION 6 of this document shall record monitoring parameters as specified in the monitoring plan required under SECTION 6(b) of this document.

(d) Except for specialty coatings, any source that complies with the substantive record keeping requirements of the aerospace NESHAP, 40 CFR 63.752\*, is deemed to be in compliance with the requirements of this SECTION.

\*This document is incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Legal Counsel, Indiana Government Center North, Thirteenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204.

**SECTION 9. Test methods.** (a) For coatings that are not waterborne (water reducible), the owner or operator shall determine the VOC content of each formulation (less water and less exempt solvents) as applied using manufacturer's supplied data or 40 CFR 60, Appendix A, Method 24\*. 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. For waterborne (water reducible) coatings, manufacturer's supplied data alone can be used to determine the VOC of each formulation.

(b) The following test methods apply to cleaning solvents:

(1) For aqueous and semiaqueous cleaning solvents, manufacturers' supplied data shall be used to determine the water content.

(2) For hand wipe cleaning solvents, manufacturers' 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.

(c) Measurements of volatile organic compound emissions for control equipment, subject to SECTION 6 of this document, shall be conducted in accordance with [326 IAC 8-1-4\(d\)](#) through [326 IAC 8-1-4\(f\)](#).

(d) Except for specialty coatings, any source that 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 SECTION.

\*These documents are incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Legal Counsel, Indiana Government Center North, Thirteenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204.

SECTION 10. A variance request from the requirements of this document shall be made in accordance with [IC 13-14-8-8](#).

SECTION 11. This document expires on the effective date of LSA [Document] #09-222 or ninety (90) days after filing with the publisher, whichever takes place first.

*LSA Document #09-700(E)*

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