

## VOC EMISSIONS CONTROL FOR MISCELLANEOUS METAL OR PLASTIC PARTS COATING OPERATIONS

103.1	Purpose.....	1
103.2	Applicability .....	1
103.3	Definitions .....	1
103.4	Exemptions .....	10
103.5	Emissions Standards .....	12
103.6	Work Practices Requirements for USING, Storing, Handling, and Disposing of VOC-Containing and Waste Materials .....	18
103.7	Compliance Obligations .....	19
103.7.1	Compliance When Using an Emissions Control System .....	19
103.8	Registration Requirements.....	20
103.9	Notification, Recordkeeping, and Reporting Requirements.....	22
103.9.1	Notification Requirements .....	22
103.9.2	Recordkeeping Requirements.....	22
103.9.3	Reporting Requirements .....	23
103.10	Compliance Dates.....	24

## LIST OF TABLES

Table 1.	Metal Parts and Products VOC Coating Content Limits, as Applied (Maximum VOC content in weight of VOC per volume of coating, less water and exempt Compounds).....	13
Table 2.	Plastic Parts and Products VOC Coating Content Limits, as Applied (maximum VOC content in weight of VOC per volume of coating, less water and exempt compounds) .....	14
Table 3.	Automotive/Transportation and Business Machine Plastic Parts VOC Coating Content Limits, as Applied (maximum VOC content in weight of VOC per volume of coating, less water and exempt compounds).....	14
Table 4.	Pleasure Craft VOC Coating Content Limits, as Applied (maximum VOC content in weight of VOC per volume of coating, less water and exempt compounds) .....	15
Table 5.	Motor Vehicle Materials VOC Content Limits, as Applied (maximum VOC content in weight of VOC per volume of coating, less water and exempt compounds) .....	15
Table 6.	Metal Parts and Products Coatings VOC Emissions Rate Limit, as Applied (weight of VOC per volume of coating solids) .....	16
Table 7.	Plastic Parts and Products Coatings VOC Emissions Rate Limit, as Applied (weight of VOC per volume of coating solids) .....	17
Table 8.	Automotive/Transportation and Business Machine Plastic Parts Coatings VOC Emissions Rate Limit, as Applied (weight of VOC per volume of coating solids).....	17
Table 9.	Pleasure Craft Coatings VOC Emissions Rate Limit, As Applied (weight of VOC per volume of coating solids).....	17

### 103.1 PURPOSE

Section 103 implements Control Technique Guidelines Reasonably Available Control Technology (CTG RACT) requirements for miscellaneous metal or plastic parts coating operations as required by Section 182(b)(2)(A) of the Clean Air Act (Act) under Title 42, Section 7511a of the U.S. Code (42 U.S.C. § 7511a).

### 103.2 APPLICABILITY

- (a) Except as provided under Section 103.4, Section 103 is applicable to any owner or operator of a stationary source with projected maximum emissions of volatile organic compounds (VOC) equal to or greater than 3.0 tons per calendar year from miscellaneous metal or plastic parts coating operations when the stationary source is located in an area that the Administrator has designated nonattainment for ozone, and has classified as a moderate or higher ozone nonattainment area on or after *[insert rule applicability date]*.
- (b) Except as provided under Section 103.4, Sections 103.6, 103.7(b)–(c), and 103.8–103.10 are applicable to any owner or operator of a stationary source with projected maximum emissions of volatile organic compounds (VOC) less than 3.0 tons per calendar year from miscellaneous metal or plastic parts coating operations when the stationary source is located in an area the Administrator has designated nonattainment for ozone, and has classified as a moderate or higher ozone nonattainment area on or after *[insert rule applicability date]*.
- (c) Section 103 does not apply:
  - (1) If the stationary source uses less than 500 gallons (1,892 L) of coatings per calendar year in miscellaneous metal or plastic parts coating operations.
  - (2) When applying coatings to a test panel or coupon, or using coatings in research and development, quality control, or performance evaluation activities.

### 103.3 DEFINITIONS

Unless the context requires otherwise, the following terms shall have the meanings set forth below for the purposes of this section. When a term is not defined, it shall have the meaning provided in Section 0 of the Clark County Air Quality Regulations (AQRs), Chapter 445B of the Nevada Revised Statutes (NRS), the Act, or common usage, in that order of priority.

“Adhesion primer” means a coating applied to a polyolefin part to promote the adhesion of a subsequent coating. This type of coating is clearly identified on its accompanying Safety Data Sheet (SDS) by this term or as an adhesion promoter.

“Affected source” means the miscellaneous metal or plastic parts operations at a stationary source subject to any requirement in Sections 103.4–103.6.

“Air dried” means a coating that is cured or dried at a temperature below 194°F (90°C).

“Antifoulant” means a coating applied to the underwater portion of a pleasure craft to prevent or reduce the attachment of biological organisms, and that is registered with the U.S. Environmental Protection Agency (EPA) as a pesticide under Section 2 of the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. § 136).

“Appurtenance” means an accessory to a stationary structure that is coated at the facility. The term includes:

1. Bathroom and kitchen fixtures;
2. Cabinets;
3. Concrete forms;
4. Doors;
5. Elevators;
6. Fences;
7. Hand railings;
8. Heating equipment, air conditioning equipment, and other fixed mechanical equipment or stationary tools;
9. Lampposts;
10. Partitions;
11. Pipes and piping systems;
12. Rain gutters and downspouts;
13. Stairways;
14. Fixed ladders;
15. Catwalks and fire escapes; and
16. Window screens.

“Baked” means a coating cured at a temperature at or above 194°F (90°C).

“Black coating” means a coating that, based on Cielab color space, 0/45 geometry, has a maximum lightness of 23 units and a saturation less than 2.8, where saturation equals the square root of  $A^2 + B^2$ . For spherical geometry, specular included, maximum lightness is 33 units.

“Business machine” means a device that uses an electronic or mechanical method to process information, perform calculations, print or copy information, or convert sound into electrical impulses for transmission. The term includes devices listed in Standard Industrial Classification codes 3572, 3573, 3574, 3579, and 3661, as well as photocopy machines, a subcategory of Standard Industrial Classification code 3861.

“Camouflage” means a coating used principally by the military to conceal equipment from detection.

“Clear coat” means a colorless coating that contains binders, but no pigment, and is formulated to form a transparent film. The term includes a transparent coating that uses the undercoat as a reflective base or undertone color.

“Coating” means a material containing more than 0.17 lbs/gal of VOC (20 g/L) as applied, excluding water and exempt compounds, applied onto or into a substrate for protective, decorative, or functional purposes, that dries or cures to form a continuous solid film. The term includes paints, sealants, caulks, primers, inks, maskants, varnish, stains, lacquer, enamel, and shellac. The term does not include protective oils, acids or bases, adhesives, or combinations of these materials.

“Coating category” means a type of coating designated in the “coating category” column of Tables 1–9 in this rule.

“Coating operation” means all steps involved in the application of one or more coatings, including application, drying or curing, surface preparation, and cleaning steps.

“Dip coat” means a coating application method accomplished by dipping an object into coating.

“Drum” means a cylindrical metal shipping container with a capacity of more than 12 gallons (45.4 L) but less than 110 gallons (416.4 L).

“Electric dissipating coating” means a coating that rapidly dissipates a high-voltage electric charge.

“Electric-insulating coating” or “Electric-insulating varnish” means a non-convertible-type coating applied to electric motors, components of electric motors, or power transformers to provide electrical, mechanical, or environmental protection or resistance.

“Electromagnetic and radio frequency interference” or “EMI/RFI” means a shield coating used on electrical or electronic equipment to provide shielding against electromagnetic interference, radio frequency interference, or static discharge.

“Electrostatic prep coat” means a coating applied to a plastic part solely to provide conductivity for the subsequent application of a primer, topcoat, or other coating through

the use of electrostatic spray application methods. This will be clearly identified as an electrostatic prep coat on its accompanying SDS.

“Electrostatic spray application” means a coating application method accomplished by charging atomized paint particles for deposition by electrostatic attraction on a metal part or product.

“Emission Control System (ECS)” means the combination of emissions capture and an add-on emissions control device that reduces VOC emissions and that is designed and operated in accordance with good engineering practice.

“Etching filler” means a coating that contains less than 23% solids by weight and at least 0.5% acid by weight, and is used instead of applying a pretreatment coating followed by a primer.

“Exempt compound” means a specified organic compound, as listed in 40 CFR Part 51.100, that the Administrator has determined to have negligible photochemical reactivity.

“Existing miscellaneous metal or plastic parts coating operations” mean miscellaneous metal or plastic parts coating operations on which the owner or operator began actual construction or reconstruction before *[insert rule effective date]*, or first constructed and operated on or after *[insert rule effective date]* and subsequently modified such that the miscellaneous metal or plastic parts coating operations became subject to Section 103 after the modification.

“Extreme high gloss” means:

1. For miscellaneous metal part surface coatings or miscellaneous plastic part surface coatings other than pleasure craft coatings, a coating that shows a reflectance of at least 75% on a 60° meter when tested by ASTM Method D-523-08; or
2. For pleasure craft coatings, a coating that shows a reflectance of at least 90% on a 60° meter when tested by ASTM Method D-523-08.

“Extreme performance” means a coating where the coated surface is subject to chronic exposure to corrosive, caustic, or acidic agents, chemicals, chemical fumes, chemical mixtures, or solutions; repeated exposure to temperatures exceeding 250°F (121°C); or repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial grade solvents, cleansers, or scouring agents. The term includes coatings applied to locomotives, railroad cars, farm machinery, and heavy-duty trucks.

“Finish primer/surfacer” means a coating applied with a wet film thickness of less than 10 mil prior to the application of a topcoat to provide corrosion resistance, adhesion of subsequent coatings, a moisture barrier, or promotion of a uniform surface necessary to fill in surface imperfections.

“Flexible primer” means a coating required to comply with engineering specifications for impact resistance, mandrel bend, or elongation as defined by the original equipment manufacturer.

“Flow coat” means a coating application method accomplished by flowing a stream of coating over an object.

“Fog coat” means a coating applied to a plastic part, at a thickness of no more than 0.5 mil of coating solids, for color matching without masking a molded-in texture.

“Gloss reducer” means a coating applied to a plastic part, at a thickness of no more than 0.5 mil of coating solids, solely to reduce the shine of the part.

“Heat-resistant” means a coating that must withstand a temperature of at least 400°F (232°C) during normal use.

“Heavier vehicle” means a vehicle designed for transporting persons or property on a street or highway that has a gross vehicle weight rating over 8,500 pounds.

“High bake” means a coating designed to cure only at temperatures of more than 194°F (90°C).

“High build primer/surfacer” means a coating applied with a wet film thickness of 10 mil or more before application of a topcoat for providing corrosion resistance, adhesion of subsequent coatings, a moisture barrier, or promotion of a uniform surface necessary for filling in surface imperfections.

“High gloss” means a coating that achieves at least 85% reflectance on a 60° meter when tested by ASTM Method D-523-08.

“High performance architectural” means a coating used to protect aluminum architectural subsections that meets the requirements of American Architectural Manufacturers Association publication AAMA 2604 (“Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels”) or 2605 (“Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels”).

“High temperature” means a coating certified to withstand a temperature of 1,000°F (538°C) for 24 hours.

“In use” means the active application of a coating or cleaning material to a substrate or the filling or draining of a container holding a coating or cleaning material.

“Magnetic tape storage disk coating” means a coating used on a metal disk that stores data magnetically.

“Maskant” means a thin film coating applied through a template to coat a small portion of a substrate.

“Metal particles” means pieces of a pure elemental metal or a combination of elemental metals.

“Metallic” means a coating that contains more than 5 grams of metal particles per liter of coating as applied.

“Military specification” means a coating that has a formulation approved by any branch of the U.S. Department of Defense for use on military equipment.

“Miscellaneous metal or plastic parts coating operations” means a process or processes of applying one or more coatings to metal or plastic parts or products, including components of such parts or products, and all associated cleaning operations. These operations are found at manufacturing facilities whose operations fall under Standard Industrial Classification codes 33–41, including, for example, manufacturers of:

1. Fabricated metal products;
2. Molded plastic parts;
3. Farm machinery;
4. Commercial and industrial machinery and equipment;
5. Automotive or transportation equipment;
6. Interior or exterior automotive parts;
7. Construction equipment;
8. Motor vehicle accessories;
9. Bicycles and sporting goods;
10. Toys;
11. Recreational vehicles;
12. Pleasure craft;
13. Extruded aluminum structural components;
14. Railroad cars;
15. Heavier vehicles;
16. Lawn and garden equipment;
17. Business machines;
18. Laboratory and medical equipment;
19. Electronic equipment;
20. Steel drums;
21. Metal pipes; and
22. Casino slot and gaming machines.



“Mold-release” means a coating applied to a mold to prevent the molded product from sticking to the mold as it is removed.

“Mold-seal” means the initial coating applied to a new or repaired mold to provide a smooth surface that, when coated with a mold-release coating, prevents products from sticking to the mold.

“Motor vehicle bedliner” means a multicomponent coating, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied to a cargo bed after the application of topcoat to provide additional durability and chip resistance.

“Motor vehicle cavity wax” means a coating, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied into the cavities of a vehicle primarily to enhance corrosion protection.

“Motor vehicle deadener” means a coating, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied to selected vehicle surfaces primarily to reduce the sound of road noise in the passenger compartment.

“Motor vehicle gasket/gasket sealing material” means a fluid coating, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied to coat a gasket or to replace and perform the same function as a gasket. The term includes room temperature vulcanization seal material.

“Motor vehicle lubricating wax/compound” means a protective lubricating coating material, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied to vehicle hubs and hinges.

“Motor vehicle sealer” means a high viscosity coating material, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied in the paint shop after the body has received an electrodeposition primer coating and before the application of subsequent coatings (e.g., a primer/surfacer). The primary purpose of the material is to fill body joints completely so there is no intrusion of water, gases, or corrosive materials into the passenger area of the body compartment. The material is also referred to as sealant, sealant primer, or caulk.

“Motor vehicle trunk interior coating” means a coating, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied to the trunk interior to provide chip protection.

“Motor vehicle underbody coating” means a coating, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied to the undercarriage or firewall to prevent corrosion or provide chip protection, or both.

“Multi-colored coating” means a coating that exhibits more than one color when applied, and is packaged in a single container and applied in a single coat.

“Multicomponent” means a coating requiring the addition of a separate reactive resin, commonly known as a catalyst or hardener, before application to the substrate to form an acceptable dry film.

“New miscellaneous metal or plastic parts coating operations” mean miscellaneous metal or plastic parts coating operations on which the owner or operator began actual construction or reconstruction on or after *[insert rule effective date]*.

“One component” means a coating that is ready for application as it comes out of its container to form an acceptable dry film. A thinner may be added to reduce the viscosity, but it is not considered a component.

“Optical coating” means a coating applied to an optical lens.

“Pan backing” means a coating applied to the surface of pots, pans, or other cooking implements that are exposed directly to a flame or other heating element.

“Pleasure craft” means a vessel that is manufactured or operated primarily for recreational purposes.

“Pleasure craft coating” means a marine coating, except for unsaturated polyester resin (fiberglass) coatings, applied by brush, spray, roller, or other means to a pleasure craft.

“Powder coating” means a coating applied as a dry, finely divided solid that, when melted and fused, adheres to the substrate as a paint film.

“Prefabricated architectural” means a coating applied to a prefabricated metal part or product if the part or product is to be used as an architectural appurtenance or structure. The appurtenance is detached from the structure when coated in a shop setting.

“Pretreatment coating” means a coating that contains no more than 12% solids by weight and at least 0.5% acid by weight that is used to provide surface etching and that is applied directly to metal surfaces to provide corrosion resistance, adhesion, and ease of stripping.

“Pretreatment wash primer” means a coating that contains no more than 12% solids by weight and at least 0.5% acid by weight that is used to provide surface etching and that is applied directly to fiberglass and metal surfaces to provide corrosion resistance and adhesion of subsequent coatings.

“Primer” means a coating applied for purposes of corrosion prevention, protection from the environment, functional fluid resistance, and/or adhesion of subsequent coatings. It also includes a coating that is formulated to be used as a primer but that, in a specific application, is used as an initial and final coating without subsequent application of a topcoat.

“Projected maximum emissions” means the highest annual rate, in tons per year, at which the stationary source is projected to emit VOC based on anticipated production, throughput, heat input, or material utilization rates.

“Red coating” means a coating that meets the following, based on Cielab color space, 0/45 geometry:

1. Yellow limit: the hue of hostaperm scarlet;
2. Blue limit: the hue of monastral red-violet;
3. Lightness limit for metallics: 35% aluminum flake;
4. Lightness limit for solids: 50% titanium dioxide white;
5. Solid reds: hue angle of -11 to 38 degrees and maximum lightness of 23 to 45 units; and
6. Metallic reds: hue angle of -16 to 35 degrees and maximum lightness of 28 to 45 units.
7. For spherical geometry, specular included, the upper limit is 49 units.

“Repair coating” means a coating used to recoat portions of a previously coated product that has sustained mechanical damage to the coating following normal coating operations.

“Resist coating” means a coating that is applied to a plastic part before metallic plating to prevent deposits of metal on portions of the plastic part.

“Roll coat” means applying a coating by rolling the coating onto a surface using a roll applicator.

“Safety-indicating coating” means a coating applied to pressurized air cylinders that undergoes a wide color change when exposed to high temperature.

“Shock-free coating” means a coating applied to electrical components to protect the user from electric shock. The coating has characteristics of being of low capacitance and high resistance, and is resistant to breaking down under high voltage.

“Silicone release” means a coating that contains silicone resin and is intended to prevent food from sticking to metal surfaces, such as baking pans.

“Solar absorbent” means a coating that has as its prime purpose the absorption of solar radiation.

“Solid-film lubricant” means a thin film coating of an organic 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 meeting surfaces.

“Solvent” means any substance containing an organic compound, or combination of organic compounds, that is liquid at atmospheric pressure and ambient temperature and is used as a diluent, thinner, dissolver, viscosity reducer, or cleaning agent, or other additives used for a similar purpose. It does not include substances used as fuel, antiseptics, or anesthetics.

“Stencil coating” means an ink or coating that is applied onto a template, stamp, or stencil to add identifying letters, numbers, or decorative designs, or a combination of these, to a metal or plastic part or product.

“Texture coat” or “texture topcoat” means a coating applied to a plastic part that, in its finished form, consists of discrete raised spots of the coating.

“Thermal-conducting coating” means a coating applied to improve the heat management properties of material.

“Topcoat” means a final coating that applies two or more coatings.

“Touch-up coating” means a coating used to cover minor coating imperfections appearing after the main coating operation.

“Transfer efficiency” means the ratio of weight of coating solids adhering to the surface coated to the weight of coating solids used in the coating operation, expressed as a percentage.

“Vacuum-metalizing” means a coating having either an undercoat applied to a substrate on which the metal is deposited prior to a vacuum-metalizing process or an overcoat applied directly to the metal film after a vacuum-metalizing process.

“Vacuum-metalizing process” means the process of evaporating metals inside a vacuum chamber and depositing them on a substrate to achieve a uniform metalized layer.

“VOC-containing material” means any coatings, solvent, or cleaning material used in miscellaneous metal or plastic part operations that contain more than 0.17 lbs/gal (20 g/L) of VOC as applied, excluding water and exempt compounds.

“Waste material” means any VOC-containing material designated for disposal, including VOC-laden rags and wipes.

#### **103.4 EXEMPTIONS**

Unless and until the Control Officer objects to an owner or operator’s use of an exemption in accordance with Section 103.9, miscellaneous metal or plastic parts coating operations that meet the criteria in this section are exempt from one or more requirements of Section 103 if the owner or operator complies with the notification, recordkeeping, and reporting requirements in Section 103.9, as applicable.

- (a) Sections 103.5–103.8 (related to emissions standards, work practice, requirements, compliance obligations, and registration requirements), 103.9.1(a), 103.9.2, and 103.9.3 (related to testing notification, recordkeeping, and reporting requirements) do not apply when VOC emissions from the miscellaneous metal or plastic parts coating operations are controlled by RACT emissions standard(s) that are at least as stringent as Section 103 under another applicable section of the AQRs.
- (b) Section 103.6 (related to work practice requirements) and Sections 103.7 (b) and (c) (related to compliance obligations) do not apply when a stationary source uses only aerosol products in their miscellaneous metal or plastic parts coating operations.
- (c) Section 103.5 (related to emissions standards) does not apply when applying the following coatings to a metal part or product:
  - (1) Stencil coating;
  - (2) Safety-indicating coating;
  - (3) Solid-film lubricant;
  - (4) Electric-insulating and thermal-conducting coating;
  - (5) Magnetic tape storage disk coating;
  - (6) Plastic extruded onto metal parts to form a coating; or
  - (7) Powder coating.
- (d) Section 103.5 (related to emissions standards) does not apply when applying the following coatings to a plastic part or product:
  - (1) Touch-up and repair coating;
  - (2) Stencil coating applied on a clear or transparent substrate;
  - (3) Clear coating;
  - (4) Coating applied at a paint manufacturing facility while conducting performance tests on coating;
  - (5) Reflective coating applied to highway cones;
  - (6) Maskant, if the coating is less than 0.5 mm thick (dried) and the area coated is less than 25 in<sup>2</sup>;
  - (7) EMI/RFI shielding coating;

- (8) Heparin-benzalkonium chloride (HBAC)-containing coating applied to a medical device, provided that the total usage of HBAC-containing coatings does not exceed 100 gallons in one calendar year at the stationary source; or
  - (9) Powder coating.
- (e) Section 103.5(d) (related to efficient application method) does not apply when applying the following coatings to metal or plastic parts:
  - (1) Touch-up coating, repair coating, or textured finish to a metal part or product;
  - (2) Powder coating to a plastic part or product, including automotive-transportation and business machine plastic parts or products;
  - (3) Coating applied through airbrush operations to a plastic part or product when 5 gallons or less are used in the airbrush operation in a calendar year;
  - (4) Repair coating applied to any metal parts or products; or
  - (5) Extreme high gloss coating applied to a pleasure craft.
- (f) Sections 103.5(a)-(c) (related to emissions standards) do not apply when applying the following coatings to automotive-transportation and business machine parts:
  - (1) Texture coat;
  - (2) Vacuum-metalizing coating;
  - (3) Gloss reducer;
  - (4) Texture topcoat;
  - (5) Adhesion primer;
  - (6) Electrostatic prep coat;
  - (7) Resist coating; or
  - (8) Stencil coating.

### **103.5 EMISSIONS STANDARDS**

Except as provided in Section 103.4, the owner or operator of miscellaneous metal or plastic parts coating operations shall limit VOC emissions from coating operations by

complying with paragraph (a); or paragraphs (b) and (d); or paragraphs (c) and (d) of this section.

- (a) Reduce VOC emissions from the coating operations using an ECS that reduces VOC emissions by at least 90% by weight.
- (b) Use coatings that, as applied, excluding water and exempt compounds, have a VOC content equal to or less than the VOC content limit for the applicable coating category specified in Tables 1–5. If more than one VOC content limit applies to a specific application, use the most restrictive VOC content limit. When a category for a specific coating is not in the tables, use a coating that meets the relevant VOC content limit for the following categories:
  - (1) For metal parts or product coatings, “General One Component” or “General Multicomponent coating” in Table 1.
  - (2) For plastic parts or products coatings, “General One Component” or “General Multicomponent” in Table 2.
  - (3) For pleasure craft coatings, “All other pleasure craft” in Table 4.

**Table 1. Metal Parts and Products VOC Coating Content Limits, as Applied (maximum VOC content in weight of VOC per volume of coating, less water and exempt compounds)**

Coating Category	Air Dried		Baked	
	kg VOC/L coating	lb VOC/gal coating	kg VOC/L coating	lb VOC/gal coating
General One Component	0.34	2.8	0.28	2.3
General Multicomponent	0.34	2.8	0.28	2.3
Camouflage	0.42	3.5	0.42	3.5
Electric-Insulating Varnish	0.42	3.5	0.42	3.5
Etching Filler	0.42	3.5	0.42	3.5
Extreme High Gloss	0.42	3.5	0.36	3.0
Extreme Performance	0.42	3.5	0.36	3.0
Heat-Resistant	0.42	3.5	0.36	3.0
High Performance Architectural	0.74	6.2	0.74	6.2
High Temperature	0.42	3.5	0.42	3.5
Metallic	0.42	3.5	0.42	3.5
Military Specification	0.34	2.8	0.28	2.3
Mold-Seal	0.42	3.5	0.42	3.5
Pan Backing	0.42	3.5	0.42	3.5
Prefabricated Architectural Multi-Component	0.42	3.5	0.28	2.3
Prefabricated Architectural One Component	0.42	3.5	0.28	2.3
Pretreatment Coatings	0.42	3.5	0.42	3.5

Coating Category	Air Dried		Baked	
	kg VOC/L coating	lb VOC/gal coating	kg VOC/L coating	lb VOC/gal coating
Repair and Touch Up Coatings	0.42	3.5	0.36	3.0
Silicone Release	0.42	3.5	0.42	3.5
Solar Absorbent	0.42	3.5	0.36	3.0
Vacuum-Metalizing	0.42	3.5	0.42	3.5
Drum Coating, New, Exterior	0.34	2.8	0.34	2.8
Drum Coating, New, Interior	0.42	3.5	0.42	3.5
Drum Coating, Reconditioned, Exterior	0.42	3.5	0.42	3.5
Drum Coating, Reconditioned, Interior	0.50	4.2	0.50	4.2

**Table 2. Plastic Parts and Products VOC Coating Content Limits, as Applied (maximum VOC content in weight of VOC per volume of coating, less water and exempt compounds)**

Coating Category	kg VOC/L coating	lbs VOC/gal coating
General One Component	0.28	2.3
General Multicomponent	0.42	3.5
Electric Dissipating Coatings and Shock-Free Coatings	0.80	6.7
Extreme Performance	0.42 (2-pack coatings)	3.5 (2-pack coatings)
Metallic	0.42	3.5
Military Specification	0.34 (1 pack) 0.42 (2 pack)	2.8 (1 pack) 3.5 (2 pack)
Mold-Seal	0.76	6.3
Multi-colored Coatings	0.68	5.7
Optical Coatings	0.80	6.7
Vacuum-Metalizing	0.80	6.7

**Table 3. Automotive/Transportation and Business Machine Plastic Parts VOC Coating Content Limits, as Applied (maximum VOC content in weight of VOC per volume of coating, less water and exempt compounds)**

Coating Category	kg VOC/L coating	lbs VOC/gal coating
<i>Automotive/Transportation Coatings<sup>1</sup></i>		
I. High Bake Coatings—Interior and Exterior Parts		
• Flexible Primer	0.54	4.5
• Non-flexible Primer	0.42	3.5
• Base Coats	0.52	4.3
• Clear Coat	0.48	4.0
• Non-basecoat/clear coat	0.52	4.3
II. Low Bake/Air Dried Coatings—Exterior Parts		
• Primers	0.58	4.8
• Basecoat	0.60	5.0
• Clear coats	0.54	4.5
• Non-basecoat/clear coat	0.60	5.0



Coating Category	kg VOC/L coating	lbs VOC/gal coating
III. Low Bake/Air Dried Coatings—Interior Parts	0.60	5.0
IV. Touchup and Repair Coatings	0.62	5.2
<i>Business Machine Coatings</i>		
I. Primers	0.35	2.9
II. Topcoat	0.35	2.9
III. Texture Coat	0.35	2.9
IV. Fog Coat	0.26	2.2
V. Touchup and repair	0.35	2.9

<sup>1</sup> For red, yellow, and black automotive coatings, except touch-up and repair coatings, the recommended limit is determined by multiplying the appropriate limit in this table by 1.15.

**Table 4. Pleasure Craft VOC Coating Content Limits, as Applied (maximum VOC content in weight of VOC per volume of coating, less water and exempt compounds)**

Coating Category	kg VOC/L coating	lbs VOC/gal coating
Extreme High Gloss Topcoat	0.49	4.1
High Gloss Topcoat	0.42	3.5
Pretreatment Wash Primers	0.78	6.5
Finish Primer/Surfacer	0.42	3.5
High Build Primer/Surfacer	0.34	2.8
Aluminum Substrate Antifoulant Coating	0.56	4.7
Other Substrate Antifoulant Coating	0.33	2.8
All other pleasure craft surface coatings for metal or plastic	0.42	3.5

**Table 5. Motor Vehicle Materials VOC Content Limits, as Applied (maximum VOC content in weight of VOC per volume of coating, less water and exempt compounds)**

Coating Category	kg VOC/L coating	lbs VOC/gal coating
Motor vehicle cavity wax	0.65	5.4
Motor vehicle sealer	0.65	5.4
Motor vehicle deadener	0.65	5.4
Motor vehicle gasket/gasket sealing material	0.20	1.7
Motor vehicle underbody coating	0.65	5.4
Motor vehicle trunk interior coating	0.65	5.4
Motor vehicle bedliner	0.20	1.7
Motor vehicle lubricating wax/compound	0.70	5.8

- (c) Use coatings that, as applied, have a VOC content equal to or less than the mass of VOC per volume of coating solids limit for the applicable coating category (Tables 6–9) by using a combination of low VOC-containing material and an ECS.

**Table 6. Metal Parts and Products Coatings VOC Emissions Rate Limit, as Applied (weight of VOC per volume of coating solids)**

Coating Category	Air Dried		Baked	
	kg VOC/L solids	lb VOC/gal solids	kg VOC/L solids	lb VOC/gal solids
General One Component	0.54	4.52	0.40	3.35
General Multicomponent	0.54	4.52	0.40	3.35
Camouflage	0.80	6.67	0.80	6.67
Electric-Insulating Varnish	0.80	6.67	0.80	6.67
Etching Filler	0.80	6.67	0.80	6.67
Extreme High Gloss	0.80	6.67	0.61	5.06
Extreme Performance	0.80	6.67	0.61	5.06
Heat-Resistant	0.80	6.67	0.61	5.06
High Performance Architectural	4.56	38.0	4.56	38.0
High Temperature	0.80	6.67	0.80	6.67
Metallic	0.80	6.67	0.80	6.67
Military Specification	0.54	4.52	0.40	3.35
Mold-Seal	0.80	6.67	0.80	6.67
Pan Backing	0.80	6.67	0.80	6.67
Prefabricated Architectural Multi-component	0.80	6.67	0.40	3.35
Prefabricated Architectural One Component	0.80	6.67	0.40	3.35
Pretreatment Coatings	0.80	6.67	0.80	6.67
Silicone Release	0.80	6.67	0.80	6.67
Solar Absorbent	0.80	6.67	0.61	5.06
Vacuum-Metalizing	0.80	6.67	0.80	6.67
Drum Coating, New, Exterior	0.54	4.52	0.54	4.52
Drum Coating, New, Interior	0.80	6.67	0.80	6.67
Drum Coating, Reconditioned, Exterior	0.80	6.67	0.80	6.67
Drum Coating, Reconditioned, Interior	1.17	9.78	1.17	9.78

**Table 7. Plastic Parts and Products Coatings VOC Emissions Rate Limit, as Applied (weight of VOC per volume of coating solids)**

Coating Category	kg VOC/L solids	lbs VOC/gal solids
General One Component	0.40	3.35
General Multicomponent	0.80	6.67
Electric Dissipating Coatings and Shock-Free Coatings	8.96	74.7
Extreme Performance	0.80 (2-pack coatings)	6.67 (2-pack coatings)
Metallic	0.80	6.67
Military Specification	0.54 (1 pack) 0.80 (2 pack)	4.52 (1 pack) 6.67 (2 pack)
Mold-Seal	5.24	43.7
Multi-colored Coatings	3.04	25.3
Optical Coatings	8.96	74.7
Vacuum-Metalizing	8.96	74.7

**Table 8. Automotive/Transportation and Business Machine Plastic Parts Coatings VOC Emissions Rate Limit, as Applied (weight of VOC per volume of coating solids)**

Coating Category	kg VOC/L solids	lbs VOC/gal solids
General One Component	0.40	3.35
General Multicomponent	0.80	6.67
Electric Dissipating Coatings and Shock-Free Coatings	8.96	74.7
Extreme Performance	0.80 (2-pack coatings)	6.67 (2-pack coatings)
Metallic	0.80	6.67
Military Specification	0.54 (1 pack) 0.80 (2 pack)	4.52 (1 pack) 6.67 (2 pack)
Mold-Seal	5.24	43.7
Multi-colored Coatings	3.04	25.3
Optical Coatings	8.96	74.7
Vacuum-Metalizing	8.96	74.7

**Table 9. Pleasure Craft Coatings VOC Emissions Rate Limit, As Applied (weight of VOC per volume of coating solids)**

Coating Category	kg VOC/L solids	lbs VOC/gal solids
Extreme High Gloss Topcoat	1.10	9.2
High Gloss Topcoat	0.80	6.7
Pretreatment Wash Primers	6.67	55.6
Finish Primer/Surfacer	0.80	6.7
High Build Primer/Surfacer	0.55	4.6
Aluminum Substrate Antifoulant Coating	1.53	12.8
Other Substrate Antifoulant Coating	0.53	4.4
All other pleasure craft surface coatings for metal or plastic	0.80	6.7

- (d) Use one or more of the following efficient application methods:
  - (1) Electrostatic spray coating;
  - (2) Flow coating;
  - (3) Dip coating, including electrodeposition;
  - (4) Roll coating;
  - (5) HVLP spray coating;
  - (6) Airless spray coating;
  - (7) Air-assisted airless spray coating;
  - (8) Slot-die coating designed and operated to achieve at least a 65% transfer efficiency; or
  - (9) A coating application method that is designed and operated to achieve at least a 65% transfer efficiency.

#### **103.6 WORK PRACTICES REQUIREMENTS FOR USING, STORING, HANDLING, AND DISPOSING OF VOC-CONTAINING AND WASTE MATERIALS**

The owner or operator of miscellaneous metal or plastic parts coating operations shall comply with the requirements of this section to minimize VOC emissions to the atmosphere.

- (a) Ensure all containers with a capacity of 1 gallon (3.8 L) or more are clearly labeled with the product name and the type of VOC-containing material or waste material inside.
- (b) Minimize air circulation around the miscellaneous metal or plastic parts coating operations to the extent possible without compromising workplace safety when VOC-containing materials are in use.
- (c) Repair any liquid leak, visible tear, or crack detected in a storage container within one calendar day, or drain all contents from the leaking container and transfer to a container meeting the requirements of paragraph (e) of this section. The owner or operator may not use the leaking container until repaired or replaced.
- (d) Securely close all containers containing VOC-containing materials or waste materials when not in use, and store VOC-laden rags and wipes in closed containers when not in use.

- (e) Use closed, nonabsorbent, nonleaking containers to store and dispose of VOC-containing materials and waste materials, including used rags and wipes.
- (f) Use care when handling and transferring VOC-containing materials or waste material to and from containers, enclosed systems, waste receptacles, and other equipment to minimize spills; immediately contain and clean up any spills that occur.
- (g) Use closed and labeled containers or pipes to convey VOC-containing materials and waste material from one location to another.
- (h) Minimize VOC emissions from the cleaning of application, storage, mixing, or conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

### **103.7 COMPLIANCE OBLIGATIONS**

To demonstrate compliance with the emissions standards and work practices in Section 103 the owner or operator of miscellaneous metal or plastic parts coating operations shall:

- (a) Identify the VOC content of all VOC-containing materials using information provided by the manufacturer.
- (b) Conduct periodic (at least quarterly) inspections to assure compliance with the requirements of Section 103.6.
- (c) Provide training to newly hired workers on the work practices requirements of Section 103.6.

#### **103.7.1 Compliance When Using an Emissions Control System**

An owner or operator of miscellaneous metal or plastic parts coating operations using an ECS shall:

- (a) Develop, maintain, and comply with an operations and maintenance plan, in accordance with manufacturer recommendations where available, if using an ECS to comply with Section 103.5. Such plan shall:
  - (1) Identify the key system operating parameters, monitoring devices, and monitoring frequencies, i.e., all those needed to ensure that good operation and engineering practices are associated with operation of the ECS, such as temperature, pressure, and/or flow rate.

- (2) Include schedules for inspection, schedules for anticipated ongoing maintenance, and proposed recordkeeping practices regarding the key system operating parameters.
- (3) Include a monitoring plan to ensure proper operation of the ECS using the key operating parameters identified.
- (4) Include provisions for minimizing emissions during periods of startup, shutdown, and malfunction.
- (5) Determine the control efficiency of the ECS used to comply with Section 103 through manufacturer design specifications or performance testing. The following reference materials may assist in determining the control efficiency of the ECS:
  - (A) "Guidelines for Determining Capture Efficiency," EPA Office of Air Quality Planning and Standards, January 9, 1995.
  - (B) EPA Test Methods 1–4 in 40 CFR Part 60, Appendices A–1 through A–3, to determine flow rates.
  - (C) "Method 204–Criteria for and Verification of a Permanent or Temporary Total Enclosure," at 40 CFR Part 51, Appendix M; or, as applicable, EPA Test Methods 204A, 204B, 204C, or 204D.
  - (D) "Method 18–Measurement of Gaseous Organic Compound Emissions by Gas Chromatography," at 40 CFR Part 60, Appendix A–6.
  - (E) "Method 25–Determination of Total Gaseous Nonmethane Organic Emissions as Carbon," at 40 CFR Part 60, Appendix A–7, or, as applicable, EPA Test Methods 25A or 25B.
- (b) Install, calibrate, operate, and maintain monitoring devices on an ECS used to comply with Section 103 according to manufacturers' specifications and the operations and maintenance plan.
- (c) Operate the monitoring devices required by paragraph (b) of this section at all times an ECS operates.

### **103.8 REGISTRATION REQUIREMENTS**

- (a) Except as provided in paragraph (d) of this section, the owner or operator of miscellaneous metal or plastic parts coating operations shall comply with the following registration requirements:

- (1) No later than *[insert date 180 days after rule effective date]* or 45 days after becoming subject to any requirements in Section 103, whichever is later, submit a registration application to the Control Officer in the manner and form prescribed that includes at a minimum the following information:
  - (A) Name, email address, and telephone number of the owner or operator and the Responsible Official;
  - (B) Company name and address (and source name and address, if different);
  - (C) Projected maximum emissions of VOC (in tons per calendar year) from miscellaneous metal or plastic parts coating operations at the stationary source;
  - (D) Calculations to support the values reported in paragraph (a)(1)(C) of this section;
  - (E) Type of ECS used to comply with Section 103, if any;
  - (F) Copy of the ECS operations and maintenance plan developed to comply with Section 103.7.1, if required;
  - (G) A declaration signed by the Responsible Official under penalty of perjury that the statements and information in the registration are true, accurate, and complete. Signature on the declaration statement shall subject the Responsible Official to liability for perjury under NRS 199.145; and
  - (H) Other information as required by the Control Officer.
- (2) Submit an updated registration to the Control Officer within 60 days of a material change.
  - (b) The Control Officer may require updated information after the initial registration to determine that the source continues to operate below the applicability threshold in Section 103.2(a).
  - (c) Owners or operators may submit a revised registration application with reduced projected maximum emissions from miscellaneous metal or plastic parts coating operations at the stationary source if less than 3.0 tons of VOC were emitted and reported in each of the previous three consecutive calendar years.
  - (d) In lieu of complying with the registration requirements of Section 103.8, but by the deadlines established in paragraph (a)(1), a stationary source regulated by a minor source permit, an authority to construct

permit, or a Part 70 operating permit shall apply for a permit revision to incorporate Section 103 requirements in accordance with the requirements in Sections 12.1, 12.4, and 12.5.

### **103.9 NOTIFICATION, RECORDKEEPING, AND REPORTING REQUIREMENTS**

The owner or operator of miscellaneous metal or plastic parts coating operations shall comply with the notification, recordkeeping, and reporting requirements of this section, as applicable. The Control Officer may deny exemption use or applicability status upon finding that the miscellaneous metal or plastic parts coating operation does not meet the eligibility criteria for exemption(s) or applicability, the stationary source has a poor regulatory compliance history, or the RACT emissions standard does not provide comparable emission reductions to Section 103.

#### **103.9.1 Notification Requirements**

- (a) Owners or operators using a performance test to determine the control efficiency of an ECS to comply with Section 103.5 shall comply with the following requirements and with the compliance dates in Section 103.10:
  - (1) Conduct a performance test within 180 days of initial operation of the ECS or *[insert date 180 days after rule effective date]*, whichever is later.
  - (2) Submit a performance testing protocol to the Control Officer in accordance with department guidelines containing test, reporting, and notification schedules, test protocols, and anticipated test dates at least 45 days, but no more than 90 days, before the anticipated test date.
  - (3) Submit a report to the Control Officer in accordance with department guidelines describing the results of a performance test within 60 days of completing the test.
- (b) Owners or operators relying on the exemption in Section 103.4(a) shall submit a notice to the Control Officer that identifies the exemption claimed by the owner or operator within 30 days of the applicable compliance date in Section 103.10.

#### **103.9.2 Recordkeeping Requirements**

The owner or operator of miscellaneous metal or plastic parts coating operations shall comply with the following recordkeeping requirements:

- (a) Owners or operators required to comply with Section 103 shall comply with the following at a minimum:



- (1) Maintain records to document eligibility for applicability thresholds or for any exemption claimed under Section 103.4.
  - (2) Retain all records for a period of five years from their creation.
  - (3) Make records available and producible onsite to the Control Officer's authorized representative upon request and without prior notice during the owner or operator's hours of operation.
  - (4) Each month, record the type and amount of VOC-containing material used in the previous month. The owner or operator may track the actual use of VOC-containing material or use purchase and inventory records (assuming that all purchases not retained in inventory are used).
  - (5) Maintain a list of VOC-containing materials used, including, at a minimum:
    - (A) Material name and manufacturer;
    - (B) VOC content of each VOC-containing material, listed as lb/gal or g/L of VOC; and
    - (C) Product data sheet or technical data sheet with specific mixing instructions and the VOC content, as applied, of VOC-containing material requiring dilution.
  - (6) Maintain a record of calendar year emission calculations.
- (b) Owners or operators using an ECS to comply with Section 103.5 shall comply with the following:
- (1) Maintain a record of monitoring of key system operating parameters as specified in the operations and maintenance plan.
  - (2) Record and maintain monitoring data collected to comply with Section 103.7.1(b).
- (c) Owners or operators required to comply with Sections 103.6 and 103.7(b) and (c) shall maintain inspection and training logs.

### **103.9.3 Reporting Requirements**

- (a) Owners or operators subject to Section 103.2(a) shall complete and submit to the Control Officer an annual emissions inventory for VOCs in the manner and form prescribed.

- (b) The inventory must be submitted to and received by the department on or before March 31 of each year (or other specified date upon prior notice from the Control Officer), and shall include emission factors and calculations used to determine emissions in the previous calendar year.
- (c) The inventory shall include, at a minimum, the following information:
  - (1) Actual annual emissions of VOC (in tons per calendar year) for the previous calendar year from miscellaneous metal or plastic parts coating operations at the stationary source; and
  - (2) Calculations to support the values reported in paragraph (c)(1) of this section.
- (d) Any information submitted pursuant to this section shall contain a certification by the Responsible Official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the information in the statement or inventory is true, accurate, and complete.

#### **103.10 COMPLIANCE DATES**

- (a) Except as provided in paragraphs (c)–(e) of this section, the owner or operator of existing miscellaneous metal or plastic parts coating operations shall comply with the requirements in Section 103 by *[insert date 180 days after rule effective date]*, or by the date the miscellaneous metal or plastic parts coating operations first commence normal operations or meet the applicability requirements in Section 103.2, whichever of the three dates is later.
- (b) The owner or operator of new miscellaneous metal or plastic parts coating operations shall comply with Section 103 upon commencing normal operation.
- (c) The owner or operator of existing miscellaneous metal or plastic parts coating operations may use VOC-containing materials from their existing inventory that do not meet the requirements of Section 103.5 until *[insert date 12 months after rule effective date]* or 12 months after first becoming subject to Section 103.5, whichever is later. Beginning on the compliance date specified in paragraph (a) of this section, the owner or operator shall not purchase any VOC-containing materials that do not comply with the VOC content limitations in Section 103.5(b) or (c) unless the emissions from such VOC-containing materials are controlled by an ECS in accordance with the requirements in Section 103.5.

- (d) The owner or operator of existing miscellaneous metal or plastic parts coating operations who elects to comply with Section 103.5 by installing a new ECS shall comply with Sections 103.5(a) or (c) no later than *[insert date 540 days after rule effective date]*.
- (e) The Control Officer may establish an alternative compliance date for meeting Section 103.5 not later than *[insert date three years after rule effective date]*, considering the technical feasibility and time needed to comply, through issuance of a minor source permit or an authority to construct permit, or by revising a Part 70 operating permit. The filing of a complete application for a minor source permit, authority to construct permit, or Part 70 significant permit revision requesting an alternative compliance date stays the compliance date in paragraph (a) of this section until the proposed alternative compliance date, or until the Control Officer denies the request or issues the authority to construct permit or revised Part 70 operating permit.

History: Adopted **Month DD, YYYY**.