Part VII. Source/Category Specific Emission Limits for Existing and New Sources

Section 1.0 Secondary Aluminum Production

1.0 Applicability. The requirements set forth in this section are in addition to those set forth in 40 C.F.R. Part 63, Subpart RRR, incorporated herein by reference as of July 1, 2006. This Section applies to all new, existing and modified secondary aluminum production facilities located on the Gila River Indian Community.

2.0 EMISSION LIMITATIONS, STANDARDS AND OPERATING REQUIREMENTS

2.1 Visible Emissions. No person shall cause, allow or permit to be discharged into the atmosphere from any emission source at a secondary aluminum production facility any air contaminant, other than uncombined water, in excess of twenty (20) percent opacity, as determined by applying EPA Method 9 protocol.

2.2 Volatile Organic Compounds.

A. The owner or operator of a source subject to this Section shall, in its initial permit application submitted pursuant to Part II, propose a VOC baseline emission rate in tons per year. The baseline emission rate shall be the source's actual emissions as determined pursuant to Part II, Section 1.0.

B. Each source subject to this Section shall demonstrate annually by February 15 that for the preceding calendar year total VOC emissions were reduced by at least three (3) percent of the VOC baseline emission rate. This demonstration shall be required each year for five (5) consecutive years after issuance of the source's initial permit pursuant to Part II for a total VOC reduction of at least fifteen (15) percent from the VOC baseline emission rate.

C. If within the five year period, a secondary aluminum production facility achieves a VOC reduction of fifteen (15) percent from the established VOC baseline emission rate, such facility shall be considered to have
achieved the requirements for VOC reduction and shall not be required to achieve additional yearly incremental VOC reductions.

3.0 GENERAL ADMINISTRATIVE REQUIREMENTS

3.1 Operation and Maintenance Plan. Any owner or operator using an emissions control system to reduce emissions in accordance with this section shall provide to the Department for approval an Operation and Maintenance Plan ("O&M Plan") at the time the initial permit application is submitted to the Department for an operating permit. The O&M Plan shall specify key system operating parameters, such as temperatures, pressures and/or flow rates, necessary to determine compliance with this Section and describe in detail procedures to maintain the approved emission control system. The Department=s written approval of the O&M Plan shall be required in order to comply with this subsection.

3.2 Providing and Maintaining Monitoring Devices. Any person incinerating, adsorbing, or otherwise processing organic materials pursuant to this Section shall provide, properly install and maintain in calibration, in good working order, and in operation, devices specified in the O&M Plan as well as in either the Permit to Operate or the Installation Permit for indicating temperatures, pressures, rates of flow, or other operating conditions necessary to determine if air pollution control equipment is functioning properly and is properly maintained.

4.0 RECORDKEEPING. Any owner or operator of a secondary aluminum production facility subject to this Section shall comply with the following recordkeeping requirements:

A. Maintain records of the amount and type of solvent used and disposed.

B. Maintain records of maintenance performed on air pollution control devices as required per the O&M Plan.

C. Maintain records of any malfunctions of air pollution control devices and actions taken in response thereto.

D. Maintain records of monthly afterburner inspections including any maintenance performed.

5.0 OPACITY TEST METHODS. Compliance with opacity limitations shall be determined using Method 9, 40 C.F.R. Part 60 Appendix A, except that the opacity observations for intermittent visible emissions shall require twelve (12) rather than twenty-four (24) consecutive readings at fifteen (15) second intervals. Alternatively, Method 22 may be used if approved by DEQ pursuant to a complete source monitoring/test protocol. Frequencies and locations for conducting visible emissions
readings shall be integrated into each individual facility permit. Each facility shall provide for a certified opacity observer to conduct visible emissions readings at locations and on a schedule specified in each individual facility permit.
Part VII. Source/Category Specific Emission Limits for Existing and New Sources

Section 2.0 Aerospace Manufacturing and Rework Operations

1.0 APPLICABILITY

1.1 General Applicability. The provisions of this Section apply to each aerospace manufacturing or rework facility within the exterior boundaries of the Gila River Indian Community ("Community") whose plant-wide potential to emit exceeds ten (10) pounds of volatile organic compounds ("VOC") per day. Compliance with the provisions of this Section shall not relieve any person subject to the requirements of this Section from complying with any other federally enforceable New Source Performance Standard ("NSPS") or National Emissions Standard for Hazardous Air Pollutants ("NESHAPs"). In such cases, the more stringent standard shall apply.

1.2 Exemptions. The following activities shall be exempt from the provisions of this Section:

A. Research and development;

B. Quality control;

C. Laboratory testing activities;
D. Chemical milling (except for application of chemical milling maskants);
E. Metal finishing;
F. Electrodeposition (except for the electrodeposition of paints);
G. Composites processing (except for cleaning and coating of composite parts or components that become part of an aerospace vehicle or component as well as composite tooling that comes in contact with such composite parts or components prior to cure);
H. Electronic parts and assemblies (except for cleaning and topcoating of completed assemblies);
I. Manufacture of aircraft transparencies;
J. Wastewater treatment operations;
K. Manufacturing and rework of parts and assemblies not critical to the vehicle's structural integrity or flight performance;
L. Regulated activities associated with space vehicles designed to travel beyond the limit of the earth's atmosphere including, but not limited to, satellites, space stations, and space shuttles;
M. Utilization of primers, topcoats, specialty coatings, cleaning solvents, chemical milling maskants, and strippers containing VOCs at concentrations less than 0.1 percent for carcinogens or 1.0 percent for noncarcinogens;
N. Utilization of touchup, aerosol, and Department of Defense classified coatings;
O. Maintenance and rework of antique aerospace vehicles and components;
P. Rework of aircraft or aircraft components if the holder of the Federal Aviation Administration design approval, or the holder's licensee, is not actively manufacturing the aircraft or aircraft components.

2.0 DEFINITIONS

"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.
“Adhesion Promoter” means a very thin coating applied to a substrate to promote wetting and form a chemical bond with the subsequently applied material.

“Adhesive Bonding” means the joining together of two or more metal parts, such as the parts of a honeycomb core. The surfaces to be bonded are first coated with an adhesive bonding primer to promote adhesion and protect from subsequent corrosion. Structural adhesives are applied as either a thin film or as a paste and can be oven cured in an autoclave.

“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 categories of adhesive bonding primers, primers with a design cure at 250°F (120°C) or below and primers with a design cure above 250°F (120°C).

“Aerospace Manufacturing Rework Facility” means a commercial, civil, or military facility that produces in any amount an aerospace vehicle or component, or a commercial, civil, or military facility that reworks (or repairs) these vehicles or components. Aerospace manufacturing and rework operations may consist of, but not be limited to, any of the following basic operations: chemical milling maskant application, chemical milling, adhesive bonding, cleaning, metal finishing electrodeposition, coating application, depainting, and composite processing.

“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, airplanes, helicopters, missiles, rockets, and space vehicles.

“Aircraft Fluid Systems” means those systems that handle hydraulic fluids, fuel, cooling fluids, or oils.

“Aircraft Transparency” means the aircraft windshield, canopy, passenger windows, lenses and other components which are constructed of transparent materials.

“Antichafe Coating” means a coating applied to areas of moving aerospace components that may rub during normal operations or installations.

“Antique Aerospace Vehicle or Component” means an antique aircraft, as defined by 14 C.F.R. Part 45, or components thereof. An antique aerospace vehicle would not routinely be in commercial or military service in the capacity for which it was designed.

“Aqueous Cleaning Solvent” means a cleaning solvent in which water is the primary ingredient (greater than eighty (80) percent by weight of cleaning solvent solution as applied must be water). Detergents, surfactants, and bioenzyme mixtures and nutrients may be combined with the water along with a variety of additives such as organic
solvents, builders, saponifiers, inhibitors, emulsifiers, pH buffers, and antifoaming agents. Aqueous solutions must have a flash point greater than 200° F (93° C) (as reported by the manufacturer) and the solution must be miscible with water.

“Application Equipment” means equipment used for applying coatings to a substrate. Application equipment includes, but is not limited to, coating distribution lines, coating hoses, equipment used in hand application methods, and equipment used in mechanically operated application methods including, but not limited to, spray guns, spinning disks, and pressure pots.

“Bearing Coating” means a coating applied to an antifriction bearing, a bearing housing, or the area adjacent to protect base material from excessive wear. A material shall not be classified as bearing coating if it can also be classified as a dry lubricative material or a solid film lubricant.

“Bonding Maskant” means a temporary coating used to protect selected areas of aerospace parts from strong acid or alkaline solutions during processing for bonding.

“Brush Coating” means the manual application of coatings using brushes or rollers.

“Caulking and Smoothing Compounds” means semi-solid materials that are applied by hand application methods and are used to aerodynamically smooth exterior vehicle surfaces or fill cavities such as bolt hold accesses. A material shall not be classified as a caulking and smoothing compound if it can be classified as a sealant.

“Chemical-agent Resistance Coating” or “CARC” means an exterior topcoat designed to withstand exposure to chemical warfare agents or the decontaminates used in these agents.

“Chemical Milling Maskant Application Operation” means the use of spray equipment or a dip tank to apply a chemical milling maskant, prior to chemically milling the component with a Type II etchant.

“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 Type II etchant. Type I chemical milling maskants are used with a Type I etchant and Type II chemical milling maskants are used with a Type II etchant. This definition does not include bonding maskants, critical use and line sealer maskants, and seal coat maskants. Additionally, maskants that must be used with a combination of Type I or Type II etchants and any other of the above types of maskants are also not included in this definition.

“Chemical Milling” means a process used to reduce the thickness of selected areas of metal parts in order to reduce weight by submerging the metal parts in an etchant.
“Cleaning Operation” means any operation that removes dirt or impurities from aerospace vehicles, components, or coating equipment. This may include spray-gun, hand-wipe, and flush cleaning operations.

“Cleaning Solvent” means any liquid material used for hand-wipe, spray-gun, or coating-line cleaning.

“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.

“Coating” means a material that is applied to the surface of an aerospace vehicle or component to form a decorative or functional solid film, or the solid film itself.

“Coating Class” means a specific subgroup of coatings such as all Topcoats, all Primers, all Type I Chemical Millings Maskants, etc.; or a specific type of specialty coating such as all Ablative Coatings, all Adhesion Promoters, all Antichafe Coatings, etc.

“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 (e.g., primer); using the same spray booth for applying another type of coating (e.g., topcoat) constitutes a separate coating operation for which compliance determinations are performed separately.

“Coating Unit” means a series of one or more coating applicators and any associated drying area and/or oven wherein a coating is applied, dried, and/or cured. 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 this definition.

“Commercial Exterior Aerodynamic Structure Primer” means a primer used on aerodynamic components and structures that protrude from the fuselage, such as wings and attached components, control surfaces, horizontal stabilizers, vertical fins, wing-to-body fairings, antennae, and landing gear and doors, for the purpose of extended corrosion protection and enhanced adhesion.

“Commercial Interior Adhesive” means materials used in the bonding of passenger cabin interior components. These components must meet the Federal Aviation Administration (“FAA”) fireworthiness requirements.

“Compatible Substrate Primer” means either compatible epoxy primer or adhesive primer.

“Composite Processing Operations” means layup, thermal forming, debulking, curing, break-out, compression molding, and injection molding of composites. Layup means the
process of assembling the layers of the composite structure by positioning composite material in a mold and impregnating the material with a resin. **Thermal forming** means the process of forming the layup in a mold, which usually takes place in an autoclave. **Debubling** means the simultaneous application of low-level heat and pressure to the composite structure to force out excess resin, trapped air, vapor, and volatiles from between the layers of the composite structure. **Curing** means the process of changing resin into a solid material through a polymerization reaction. **Break-out** means the removal of the composite structure from the mold or curing fixtures. **Compression molding** means the process of filling one half of a mold with a molding compound, closing the mold, and applying heat and pressure until the material is cured. **Injection molding** means the use of a closed mold, where the molding compound is injected into the mold, maintained under pressure, and then cured by applying heat.

“**Confined Space**” means a space that (1) is large enough and so configured that an employee can bodily enter and perform assigned work; (2) is limited or restricted for entry or exit (for example, fuel tanks, fuel vessels, and other spaces that have limited entry); and (3) is not suitable for continuous employee occupancy.

“**Corrosion Prevention Compound**” means a compound that provides corrosion protection by displacing water and penetrating mating surfaces, forming a protective barrier between the metal surface and moisture. Coatings containing oils or waxes are excluded from this category.

“**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 anodizing, plating, chemical milling and processing of magnesium, titanium, or high strength steel, high precision aluminum chemical milling of deep cuts, and aluminum chemical milling of complex shapes. Materials used for repairs or to bridge gaps left by scribing operations are also included in this category.

“**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 (i.e., -275°F (-170°C) and below).

“**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 re-entry, and prevent ice formation.

“**Cyanoacrylate Adhesive**” means a fast-setting, single component adhesive that cures at room temperature. (Also known as “super glue”).

“**Depainting Operation**” means the use of a chemical agent, media blasting, or any other technique to remove coatings from the outer surface of aerospace components or
vehicles. The depainting operation includes washing of the aerospace component or vehicle to remove residual stripper and coating residue.

"Depainting" means the removal of any coating from the outer surface of the aircraft by either chemical or non-chemical means.

"Dip Coating" means the application of a coating material to a substrate by dipping the part into a tank of the coating material.

"Dry Lubricative Material" means a coating consisting of lauric acid, acetyl alcohol, waxes, or other noncross linked resin-bond materials that act as a dry lubricant.

"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, lightning strike protection, electromagnetic pulse ("EMP") protection, and radar avoidance. Coatings that have been designated "classified" by the Department of Defense are exempt.

"Electrodeposition or Metal Plating" means an additive process for metal substrates in which another metal layer is added to the substrate in order to enhance corrosion and wear resistance necessary for the successful performance of the component. The two types of electro-deposition typically used are electroplating and plasma arc spraying.

"Electrostatic Discharge and Electromagnetic Interference (EMI)" means a coating applied to space vehicles, missiles, aircraft radomes, and helicopter blades to disperse static energy or reduce electromagnetic interference.

"Electrostatic Spray" means a method of applying a spray coating in which opposite electrical charges are applied to the substrate and the coating. The coating is attracted to the substrate by the electrostatic potential between them.

"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 150° F for 1,000 hours.

"Epoxy Polyamide Topcoat" means a coating used where harder films are required or in some areas where engraving is accomplished in camouflage colors.

"Etchant" means a chemical used to mill a part or subassembly, such as sodium hydroxide for aluminum parts.

"Fire-resistant (Interior) Coating" means for civilian aircraft, fire-resistant coatings are used on passenger cabin interior parts that are subject to the 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.

“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.

“Flight Test Coating” means a coating applied to aircraft other than missiles or single-use aircraft prior to flight testing to protect the aircraft from corrosion and to provide required marking during flight test evaluation.

“Flow Coating” means the application of a coating material to a substrate by pouring the coating over the suspended part.

“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 simply may be poured into the item being cleaned and then drained or assisted by air or hydraulic pressure or by pumping. Hand-wipe cleaning operations where wiping, scrubbing, mopping or other hand action are used are not included.

“Flush Cleaning Operation” means the cleaning of an aerospace vehicle or component by passing solvent over, into, or through the vehicle or component. The solvent may simply be poured into the vehicle or component and then drained, or be assisted by air or hydraulic pressure, or by pumping.

Fuel Tank Adhesive” means an adhesive used to bond components exposed to fuel and must be compatible with fuel tank coatings.

“Fuel Tank Coating” means a coating applied to fuel tank components for the purpose of corrosion and/or bacterial growth inhibition and to assure sealant adhesion in extreme environmental conditions.

“General Aviation (GA)” means the segment of civil aviation that encompasses all facets of aviation except air carriers, commuters and military. General aviation includes charter and corporate-executive transportation, instruction, rental, aerial application, aerial observation, business, pleasure and other special uses.

“General Aviation Rework Facility” means any aerospace facility with the majority of its revenues resulting from the reconstruction, repair, maintenance, repainting, conversion, or alteration of general aviation, aerospace vehicles or components.
"Grams per Liter VOC" means a weight of VOC per combined volume of VOC and coating solids, less water and exempt compounds, and can be calculated by the following equation:

\[
\text{grams per liter} = \frac{W_t - W_w - W_{es}}{V_s - V_w - V_{es}}
\]

\( W_t \) = weight of volatile organic compounds in grams  
\( W_w \) = weight of water in grams  
\( W_{es} \) = weight of exempt compounds in grams  
\( V_s \) = volume of material in liters  
\( V_w \) = volume of water in liters  
\( V_{es} \) = volume of exempt compounds in liters

"Hand-Wipe Cleaning Operation" means the removal of contaminants such as dirt, grease, and oil from aerospace components or vehicles by physically rubbing them with a material such as a rag, paper, or cotton swab that has been moistened with a cleaning solvent.

"High Temperature Coating" means a coating designed to withstand temperatures of more than 350°F (175°C).

"High Volume Low Pressure (HVLP) Spray Equipment" means spray equipment that is used to apply coatings by means of a gun that operates at ten (10.0) psig of atomizing air pressure or less at the air cap.

"Insulation Covering" means material that is applied to foam insulation to protect the insulation from mechanical or environmental damage.

"Intermediate Release Coating" means a thin coating applied beneath topcoats to assist in removing the topcoat in depainting operations and generally to allow the use of less hazardous depainting methods.

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

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

"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 spray gun extension for the application of coatings.

"Metal Finishing Operations" means conversion coating, anodizing, desmutting, descaling, and any operations that chemically affect the surface layer of a part, and are
used to prepare the surface of a part for better adhesion, improved surface hardness, and improved corrosion resistance.

"Metallized Epoxy Coating" means a coating that contains relatively large quantities of metallic pigmentation for appearance and/or added protection.

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

"Non-Chemical-Based Depainting Equipment" means any depainting equipment or technique, including media blasting equipment, that does not rely on a chemical stripper to depaint an aerospace vehicle or components.

"Non-Precursor Organic Compound" means any of the following organic compounds which have been designated by the EPA as having negligible photochemical reactivity: methane; ethane; methylene chloride (dichloromethane); 1,1,1-trichloroethane; trichlorofluoromethane (CFC-11); dichlorodifluoromethane (CFC-12); chlorodifluoromethane (CFC-22); 1,1,2-trichlorotrifluoroethane (CFC-113); 1,2-dichlorotetrafluoroethane (CFC-114); chloropentafluoroethane (CFC-115); trifluoromethane (FC-23); 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123); 2-chloro-1,1,2-tetrafluoroethane (HCFC-124); 1,1-dichloro-1-fluoroethane (HCFC-141b); 1-chloro-1,1-difluoroethane (HCFC-142b); pentafluoroethane (HFC-125); 1,1,2,2-tetrafluoroethane (HFC-134); 1,1,1,2-tetrafluoroethane (HFC-134a); 1,1-trifluoroethane (HFC-143a); 1,1-difluoroethane (HFC-152a); all completely fluorinated, completely saturated: alkanes, ethers and tertiary amines.

"Nonstructural Adhesive" means an adhesive that bonds nonload bearing aerospace components in noncritical applications and is not covered in any other specialty adhesive categories.

"Optical Anti-reflection 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.

"Part Marking Coating" means coatings or inks used to make identifying markings on materials, components, and/or assemblies. These markings may be either permanent or temporary.

"Potential to Emit" means the maximum capacity of a stationary source to emit a pollutant under its physical or operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restriction on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design only if the limitation or the effect it would have on emissions is enforceable as a practical matter. Secondary emissions do not count in determining the potential to emit of a stationary source.
“Pretreatment Coating” means an organic coating that contains at least 0.5 percent acids by weight and is applied directly to metal surfaces to provide surface etching, corrosion resistance, adhesion, and ease of stripping.

“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 corrosion prevention, protection from the environment, functional fluid resistance, and adhesion of subsequent coatings. Primers that are defined as specialty coatings are not included under this definition.

“Radome” means the nonmetallic protective housing for electromagnetic transmitters and receivers.

“Rain Erosion-Resistant Coating” means a coating or coating system used to protect the leading edges of parts such as flaps, stabilizers, radomes, engine inlet nacelles, etc. against erosion caused by rain impact during flight.

“Research and Development” means an operation whose primary purpose is for research and development of new processes and products and that is conducted under the close supervision of technically trained personnel and is not involved in the manufacture of final or intermediate products for commercial purposes, except in a de minimis manner. This definition includes aerospace coating operations, including operations performed for purposes of testing and quality control, which are not used for production purposes to directly produce a deliverable product or service, other than the first-article product or service.

“Rocket Motor Bonding Adhesive” means an adhesive used in rocket motor bonding applications.

“Rocket Motor Nozzle Coating” means a catalyzed epoxy coating system used in elevated temperature applications on rocket motor nozzles.

“Rubber-based Adhesive” means a quick setting contact cement that provides a strong, yet flexible bond between two mating surfaces that may be of dissimilar materials.

“Scale Inhibitor” means a coating that is applied to the surface of a part prior to thermal processing to inhibit the formation of scale.

“Screen Print Ink” means inks used in screen printing processes during fabrication of decorative laminates and decals.

“Seal Coat Maskant” means an overcoat applied over a maskant to improve abrasion and chemical resistance during production operations.
<table>
<thead>
<tr>
<th>Sealant</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Priming Topcoat</td>
<td>means a topcoat that is applied directly to an uncoated aerospace vehicle or component for purposes of corrosion prevention, environmental protection, and functional fluid resistance. More than one layer of identical coating formulation may be applied to the vehicle or component.</td>
</tr>
<tr>
<td>Semiaqueous Cleaning Solvent</td>
<td>means a solution in which water is the primary ingredient (greater than sixty (60) percent by weight of the solvent solution as applied must be water).</td>
</tr>
<tr>
<td>Silicone Insulation Material</td>
<td>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.”</td>
</tr>
<tr>
<td>Solid Film Lubricant</td>
<td>means a very thin coating consisting of a binder system containing as its chief pigment material one or more of the following: molybdenum, graphite, polytetrafluoroethylene (PTFE), or other solids that act as a dry lubricant between faying surfaces.</td>
</tr>
<tr>
<td>Space Vehicle</td>
<td>means a man-made device, either manned or unmanned, designed for operation beyond earth’s atmosphere. This definition includes integral equipment such as models, mock-ups, prototypes, molds, jigs, tooling, hardware jackets, and test coupons. Also included is auxiliary equipment associated with test, transport, and storage that through contamination can compromise the space vehicle performance.</td>
</tr>
<tr>
<td>Specialized Function Coating</td>
<td>means a coating that fulfills extremely specific engineering requirements that are limited in application and are characterized by low volume usage. This category excludes coatings covered in other Specialty Coating categories.</td>
</tr>
<tr>
<td>Specialty Coating</td>
<td>means a coating that, even though it meets the definition of a primer, topcoat, or self-priming topcoat, has additional performance criteria beyond those of primers, topcoats, and self-priming topcoats for specific applications. These performance criteria may include, but are not limited to, temperature or fire resistance, substrate compatibility, antireflection, temporary protection or marking, sealing, adhesively joining substrates, or enhanced corrosion protection.</td>
</tr>
<tr>
<td>Spray-Gun</td>
<td>means a device that uses air pressure or air flow to atomize a coating or other material and to project the atomized coating particulates or other material into a component.</td>
</tr>
<tr>
<td>Stripper</td>
<td>means a liquid that is applied to an aerospace component or vehicle to remove primer, topcoat, or coating residue.</td>
</tr>
</tbody>
</table>
“Structural Autoclavable Adhesive” means an adhesive used to bond load carrying aerospace components that is cured by heat and pressure in an autoclave.

“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.

“Surface Preparation” means the removal of contaminants from the surface of an aerospace vehicle or component or the activation or reactivation of the surface in preparation for the application of a coating.

“Temporary Protective Coating” means a coating applied to provide scratch or corrosion protection during manufacturing, storage, or transportation. Two types include peelable protective coatings and alkaline removable coatings. These materials are not intended to protect against strong acid or alkaline solutions. Coatings that provide this type of protection from chemical processing are not included in this category.

“Thermal Control Coating” means a coating formulated with specific thermal conductive or radioactive properties to permit temperature control of the substrate.

“Topcoat” means a coating that is applied over a primer on an aerospace vehicle or component for appearance, identification, camouflage, or protection. Topcoats that are defined as specialty coatings are not included under this definition.

“Type I Etchant” means a chemical milling etchant that contains varying amounts of dissolved sulfur and does not contain amines.

“Type II Etchant” or “Type II Chemical Milling Etchant” means a chemical milling etchant that is a strong sodium hydroxide solution containing amines.

“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.

“Wing Coating” means a corrosion-resistant topcoat that is resilient enough to withstand the flexing of the wings.

### 3.0 LIMITATIONS AND STANDARDS

#### 3.1 Primers, Topcoats and Chemical Milling Maskants

No person shall apply any primer, topcoat (including self-priming topcoats), or chemical milling maskants that contain VOCs in excess of the limits in this Table 1.
TABLE 1

<table>
<thead>
<tr>
<th>PRIMER or TOPCOAT TYPE</th>
<th>VOC LIMIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>All primers (except Specialty or General Aviation Rework Facility Primers)</td>
<td>350 g/L (2.9 lb/gal)</td>
</tr>
<tr>
<td>All topcoats (except Specialty or General Aviation Rework Facility Primers)</td>
<td>420 g/L (3.5 lb/gal)</td>
</tr>
<tr>
<td>General Aviation Rework Facility Primers</td>
<td>540 g/L (4.5 lb/gal)</td>
</tr>
<tr>
<td>General Aviation Rework Facility Topcoats</td>
<td>540 g/L (4.5 lb/gal)</td>
</tr>
<tr>
<td>All Type I Chemical Milling Maskants</td>
<td>620 g/L (5.2 lb/gal)</td>
</tr>
<tr>
<td>All Type II Chemical Milling Maskants</td>
<td>150 g/L (1.3 lb/gal)</td>
</tr>
</tbody>
</table>

3.2 Specialty Coatings: No person shall apply any surface coating that contains VOC emissions in excess of the limits set forth in this Table 2.

TABLE 2

<table>
<thead>
<tr>
<th>Type of Specialty Coating</th>
<th>VOC Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ablative Coatings</td>
<td>600 g/L (5.0 lb/gal)</td>
</tr>
<tr>
<td>Adhesion Promoters</td>
<td>890 g/L (7.4 lb/gal)</td>
</tr>
<tr>
<td>Adhesion Bonding Primers: Cured at 120°C or below</td>
<td>850 g/L (7.1 lb/gal)</td>
</tr>
<tr>
<td>Adhesive Bonding Primers: Cured at above 120°C</td>
<td>1030 g/L (8.6 lb/gal)</td>
</tr>
<tr>
<td>Adhesives: Commercial Interior</td>
<td>760 g/L (6.3 lb/gal)</td>
</tr>
<tr>
<td>Adhesives: Cyanoacrylate</td>
<td>1020 g/L (8.5 lb/gal)</td>
</tr>
<tr>
<td>Adhesives: Fuel Tanks</td>
<td>620 g/L (5.2 lb/gal)</td>
</tr>
<tr>
<td>Adhesives: Nonstructural</td>
<td>360 g/L (3.0 lb/gal)</td>
</tr>
<tr>
<td>Adhesives: Rocket Motor Bonding</td>
<td>890 g/L (7.4 lb/gal)</td>
</tr>
<tr>
<td>Adhesives: Rubber-Based</td>
<td>850 g/L (7.1 lb/gal)</td>
</tr>
<tr>
<td>Adhesives: Structural Autoclavable</td>
<td>60 g/L (0.5 lb/gal)</td>
</tr>
<tr>
<td>Adhesives: Structural Nonautoclavable</td>
<td>850 g/L (7.1 lb/gal)</td>
</tr>
<tr>
<td>Antichafe Coatings</td>
<td>660 g/L (5.5 lb/gal)</td>
</tr>
<tr>
<td>Bearing Coating Compounds</td>
<td>620 g/L (5.2 lb/gal)</td>
</tr>
<tr>
<td>Caulking and Smoothing Compounds</td>
<td>850 g/L (7.1 lb/gal)</td>
</tr>
<tr>
<td>Chemical Agent-Resistant Coatings</td>
<td>550 g/L (4.6 lb/gal)</td>
</tr>
<tr>
<td>Clear Coatings</td>
<td>720 g/L (6.0 lb/gal)</td>
</tr>
<tr>
<td>Commercial Exterior Aerodynamic Structure Primers</td>
<td>650 g/L (5.4 lb/gal)</td>
</tr>
<tr>
<td>Compatible Substrate Primers</td>
<td>780 g/L (6.5 lb/gal)</td>
</tr>
<tr>
<td>Corrosion Prevention Compounds</td>
<td>710 g/L (5.9 lb/gal)</td>
</tr>
<tr>
<td>Cryogenic Flexible Primers</td>
<td>645 g/L (5.4 lb/gal)</td>
</tr>
<tr>
<td>Type of Specialty Coating</td>
<td>VOC Limits</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Cryoprotective Coatings</td>
<td>600 g/L (5.0 lb/gal)</td>
</tr>
<tr>
<td>Dry Lubricative Materials</td>
<td>880 g/L (7.3 lb/gal)</td>
</tr>
<tr>
<td>Electric or Radiation-Effect Coatings</td>
<td>800 b/L (6.7 lb/gal)</td>
</tr>
<tr>
<td>Electrostatic Discharge and Electromagnetic Interference (EMI) Coatings</td>
<td>800 g/L (6.7 lb/gal)</td>
</tr>
<tr>
<td>Elevated Temperature Skydrol Resistant Commercial Primers</td>
<td>740 g/L (6.2 lb/gal)</td>
</tr>
<tr>
<td>Epoxy Polyamide Topcoats</td>
<td>660 g/L (5.5 lb/gal)</td>
</tr>
<tr>
<td>Fire-Resistant (Interior) Coatings</td>
<td>800 g/L (6.7 lb/gal)</td>
</tr>
<tr>
<td>Flexible Primers</td>
<td>640 g/L (5.3 lb/gal)</td>
</tr>
<tr>
<td>Flight-Test Coatings, Missile or Single Use Aircraft</td>
<td>420 g/L (3.5 lb/gal)</td>
</tr>
<tr>
<td>Flight-Test Coatings, All Others</td>
<td>840 g/L (7.0 lb/gal)</td>
</tr>
<tr>
<td>Fuel-Tank Coatings</td>
<td>720 g/L (6.0 lb/gal)</td>
</tr>
<tr>
<td>High-Temperature Coatings</td>
<td>850 g/L (7.1 lb/gal)</td>
</tr>
<tr>
<td>Insulations Coverings</td>
<td>740 g/L (6.2 lb/gal)</td>
</tr>
<tr>
<td>Intermediate Release Coatings</td>
<td>750 g/L (6.3 lb/gal)</td>
</tr>
<tr>
<td>Lacquers</td>
<td>830 g/L (6.9 lb/gal)</td>
</tr>
<tr>
<td>Maskants: Bonding</td>
<td>1230 g/L (10.3 lb/gal)</td>
</tr>
<tr>
<td>Maskants: Critical Use and Line Sealers</td>
<td>1020 g/L (8.5 lb/gal)</td>
</tr>
<tr>
<td>Maskants: Seal Coat Maskants</td>
<td>1230 g/L (10.3 lb/gal)</td>
</tr>
<tr>
<td>Metallized Epoxy Coatings</td>
<td>740 g/L (6.2 lb/gal)</td>
</tr>
<tr>
<td>Mold Releases</td>
<td>780 g/L (6.5 lb/gal)</td>
</tr>
<tr>
<td>Optical Anti-Reflective Coatings</td>
<td>750 g/L (6.3 lb/gal)</td>
</tr>
<tr>
<td>Part Marking Coatings</td>
<td>850 g/L (7.1 lb/gal)</td>
</tr>
<tr>
<td>Pretreatment Coatings</td>
<td>780 g/L (6.5 lb/gal)</td>
</tr>
<tr>
<td>Rain Erosion-Resistant Coatings</td>
<td>850 g/L (7.1 lb/gal)</td>
</tr>
<tr>
<td>Rocket Motor Nozzle Coatings</td>
<td>660 g/L (5.5 lb/gal)</td>
</tr>
<tr>
<td>Scale Inhibitors</td>
<td>880 g/L (7.3 lb/gal)</td>
</tr>
<tr>
<td>Screen Print Inks</td>
<td>840 g/L (7.0 lb/gal)</td>
</tr>
<tr>
<td>Sealants: Extrudable/Rollable/Brushable</td>
<td>280 g/L (2.3 lb/gal)</td>
</tr>
<tr>
<td>Sealants: Sprayable</td>
<td>600 g/L (5.0 lb/gal)</td>
</tr>
<tr>
<td>Silicone Insulation Materials</td>
<td>850 g/L (7.1 lb/gal)</td>
</tr>
<tr>
<td>Solid Film Lubricants</td>
<td>880 g/L (7.3 lb/gal)</td>
</tr>
<tr>
<td>Specialized Function Coatings</td>
<td>890 g/L (7.4 lb/gal)</td>
</tr>
<tr>
<td>Temporary Protective Coatings</td>
<td>320 g/L (2.7 lb/gal)</td>
</tr>
</tbody>
</table>
3.3 **Emissions Control Devices.** As an alternative to meeting the applicable coating limits set forth in subsection 3.2, an owner or operator may comply with this Section by installing and operating an emissions capture and control system approved by the Director, provided that the control system demonstrates, at a minimum, a combined VOC emissions reduction efficiency of greater than or equal to eighty-one (81) percent by weight.

3.4 **Application Equipment.**

A. Application Techniques. A person shall use one or more of the following application techniques in applying any primer or topcoat (including self-priming topcoats) to aerospace vehicles or components:

1. Flow/curtain application;
2. dip coat application;
3. roll coating;
4. brush coating;
5. cotton-tipped swab application;
6. electrodeposition (dip) coating;
7. high volume low pressure (HVLP) spraying;
8. electrostatic spray application;
9. other coating application methods that achieve emission reductions equivalent to HVLP or electrostatic spray application methods.

Any such alternative methods shall be demonstrated to be equivalent to these methods and such demonstration must be approved by the Director in advance of the use of such alternatives.

B. Manufacturer Specifications. Each owner or operator of an aerospace manufacturing and/or rework operation shall ensure that all application devices listed in paragraph A of this subsection are operated at all times in accordance with company procedures and/or the manufacturer’s
specifications, whichever is more stringent. Equipment modified by the owner or operator shall maintain a transfer efficiency equivalent to HVLP and electrostatic spray application techniques.

C. Exemptions. The following situations are exempt from the application equipment requirements listed in paragraph A of this subsection.

1. The application of chemical milling maskants.
2. Any situation that normally requires the use of an extension on the spray-gun to properly reach limited access spaces.
3. The application of coatings with fillers that adversely affect atomization with HVLP spray-guns and that cannot be applied by any of the specified application techniques.
4. The application of coatings that normally have a dried film thickness of less than 0.0005 inches and that cannot be applied by any of the specified application techniques.
5. Any situation that normally requires the use of airbrush application methods for stenciling, letters, and other identification markings.
6. Touch-up and repair operations.

3.5 Hand-Wipe Cleaning Operations.

A. Standards. Except as provided in paragraph B of this subsection, a person shall not use solvents for hand-wipe cleaning of aerospace vehicles or components unless the cleaning solvents satisfy one of the following:

1. Meet the definition of "aqueous cleaning solvent" in subsection 2.0.
2. Have a VOC composite vapor pressure less than or equal to forty-five (45) millimeters of mercury (mm Hg) at 20 degrees Celsius.
3. Is a hydrocarbon-based solvent that has a maximum composite vapor pressure of seven (7) mm Hg at 20 degrees Celsius.

B. Exemptions. The following aerospace vehicle and component solvent cleaning operations are exempt from the hand-wipe cleaning operations listed in paragraph A of this subsection:
<table>
<thead>
<tr>
<th>Revised 2008 Air Quality Ordinance</th>
<th>8/20/08</th>
<th>18 of 23</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cleaning during the manufacture, assembly, installation, maintenance, or testing of components of breathing oxygen systems that are exposed to the breathing oxygen.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Cleaning during the manufacture, assembly, installation, maintenance, or testing of parts, subassemblies, or assemblies, that are exposed to strong oxidizers or reducers.</td>
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</tr>
<tr>
<td>3. Cleaning and surface activation prior to adhesive bonding.</td>
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</tr>
<tr>
<td>5. Cleaning of aircraft and ground support equipment fluid systems that are exposed to the fluid including air-to-air heat exchangers and hydraulic fluid systems.</td>
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<td></td>
</tr>
<tr>
<td>7. Surface cleaning of solar cells, coating optics, and thermal control surfaces.</td>
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</tr>
<tr>
<td>8. Cleaning during fabrication, assembly, installation, and maintenance of upholstery, curtains, carpet, and other textile materials used in the interior of the aircraft.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Cleaning of metallic and non-metallic materials used in honeycomb cores during the manufacture or maintenance of these cores, and the cleaning of the completed cores used in the manufacture or maintenance of aerospace vehicles or components.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Cleaning of aircraft transparencies, polycarbonates, or glass substrates.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Cleaning and solvent usage associated with research and development, quality control, and laboratory testing.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Cleaning operations, using nonflammable liquids, conducted within five feet of energized electrical systems. Energized electrical systems means any alternating current (AC) or direct current (DC) electrical circuit on an assembled aircraft once electrical power is connected, including interior passenger and cargo areas, wheel wells, and tail sections.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.6 Solvent Cleaning Operations.

A. Flush Cleaning. Cleaning solvents, except semiaqueous cleaning solvents, used in the flush cleaning of aerospace vehicles, components, parts, assemblies, and coating unit components, with the exception of spray-guns, shall be emptied into an enclosed container or collection system that is kept closed when not in use or captured with wipers which comply with the housekeeping requirements of paragraph C. Aqueous cleaning solvents are exempt from these requirements.

B. Spray Gun Cleaning. All spray-guns shall be cleaned by one of the following methods:

1. Enclosed spray-gun cleaning, provided that it is kept closed when not in use and leaks are repaired as expeditiously as practicable, but no later than fifteen (15) days after the leak is first discovered. If the leak is not repaired by the 15th day after detection, the cleaning solvent shall be removed and the enclosed cleaner shall be shut down until the leak is repaired or its use is permanently discontinued.

2. Nonatomized discharge of solvent into a vat, drum, or other waste container that is closed when not in use.

3. Disassembly and cleaning of the spray-gun by hand in a vat that is kept closed at all times except when in use. Alternatively, the components shall be soaked in a vat, which shall remain closed during the soaking period and when not inserting or removing components.

4. Atomized spray into a waste container that is fitted with a device designed to capture the atomized cleaning solvent emissions.

3.7 Housekeeping Requirements. Each owner or operator of an aerospace manufacturing and/or rework operation shall comply with the following housekeeping requirements:

A. Solvent-laden cloth, paper, or any other absorbent applicators used for cleaning shall be placed in bags or other closed containers upon completing their use. These bags and containers shall be kept closed at all times except when depositing or removing these materials from the
container. The bags and containers shall be designed so as to ensure that the vapors of the cleaning solvent are contained. Cotton-tipped swabs used for very small cleaning operations are exempt from this requirement.

B. All fresh and spent cleaning solvents, except semi-aqueous solvent cleaners, that are used in aerospace cleaning operations shall be stored in closed containers.

C. Conduct the handling and transfer of cleaning solvents to or from enclosed systems, vats, waste containers, and other cleaning operation equipment that hold or store fresh spent cleaning solvents in such a manner that spills are minimized.

4.0 MONITORING AND RECORDS

4.1 Recordkeeping. All persons subject to this Section shall comply with the following recordkeeping requirements. Records shall be retained for five (5) years and shall be made available to the Director upon request.

A. Coatings. Each owner or operator of an aerospace manufacturing and/or rework operation utilizing coatings specified in this Section shall maintain a current list of coatings that includes the specific category including noncompliant compounds, VOC content as applied, and the monthly amount used for each coating. If compliance is demonstrated using averaging, records of any such calculations must also be maintained.

B. Cleaning Solvents. Each owner or operator of an aerospace manufacturing and/or rework operation utilizing cleaning solvents shall:

1. Maintain a list of materials with corresponding water contents for aqueous and semi-aqueous hand-wipe cleaning solvents.

2. Maintain a current list of all cleaning solvents in use with their respective vapor pressures or, for blended solvents, VOC composite vapor pressures and records of the monthly usage of such cleaning solvents.

3. Maintain a current list of exempt hand-wipe cleaning processes for all cleaning solvents with a vapor pressure greater than forty-five (45) mm Hg used in exempt hand-wipe cleaning operations. This list shall include the monthly amount of each applicable solvent used.
4. Maintain a list of any non-compliance occurrence, including the names and volumes of any non-compliant solvents or cleaners used.

C. Spray Gun Operations. An owner or operator of a cleaning operation subject to this Section shall maintain a record of all leaks from spray-gun cleaners, including identification of the source, the date the leak was first discovered, and the date the leak was repaired.

D. Emissions Control Devices Approved Pursuant to Subsection 3.3. An owner or operator of an emissions control device shall maintain daily records of the operating parameters for the device.

4.2 Reporting.

A. All facilities subject to the provisions of this Section are required to file with the Department an annual report covering activities for one calendar year. The report shall be submitted to the Department by March 31st of the following year. The report shall list any noncompliance situations that occurred in the reporting year. For each incident of non-compliance, the report shall provide an explanation of how the non-compliance situation occurred and it shall describe the preventative measures implemented to prevent similar non-compliance incidents in the future.

B. If no non-compliance situations occur in a calendar year, the facility shall submit in letter form a certification of compliance signed by a responsible official of the company.

5.0 COMPLIANCE AND TEST METHODS

5.1 Primers and Topcoats. Compliance with the limits in Table 1 of subsection 3.1 may be determined for each coating used or by computing the monthly mass-weighted average VOC content for all coatings within a given coating class used during that month. As an alternative to compliance with the emission limits set forth in Table 1 of subsection 3.1, an owner or operator may meet the requirements in subsection 3.3 of this Section.

5.2 Specialty Coatings. Compliance with the limits set forth in Table 2 of subsection 3.2 shall be determined for each and every coating used. Averaging within a given coating class is prohibited.

5.3 Coatings. The VOC content of coatings (less water and less nonprecursor organic compounds) as applied shall be determined by manufacturer's supplied data or Method 24 of 40 CFR part 60, Appendix A. If there is a discrepancy between the manufacturer's formulation data and the results of the Method 24.
analysis, compliance shall be based on the results from the Method 24 analysis. 
For waterborne (water-reducible) coatings, only manufacturer’s supplied data can 
be used to determine the VOC content of each formulation.

5.4 **Control Equipment.** Measurements of VOC emissions from control equipment 
shall be conducted in accordance with EPA Methods 18, 25, and/or 25A, 40 CFR 
60, Appendix A.

5.5 **Test Methods Adopted by Reference.** The EPA test methods as they exist in the 
Code of Federal Regulations (CFR) as of [date of rule promulgation], as listed 
below, are adopted by reference. These adoptions by reference include no future 
editions or amendments. Copies of test methods referenced in this section are 
available at the Gila River Indian Community Department of Environmental 
Quality, 35 Pima Street, Sacaton, Arizona 85247.

A. EPA Method 18 ("Measurement of Gaseous Organic Compound 
Emissions by Gas Chromatography") and its submethods (40 CFR 60, 
Appendix A).

B. EPA Test Method 24 ("Determination of Volatile Matter Content, Water 
Content, Density, Volume Solids, and Weight Solids of Surface 
Coatings") (40 CFR 60, Appendix A).

C. EPA Method 25 ("Determination of Total Gaseous Nonmethane Organic 
Emissions as Carbon") and its submethods (40 CFR 60, Appendix A).

D. EPA Test Methods 204 ("Criteria For and Verification Of a Permanent or 
Temporary Total Enclosure"), 204a, 204b, 204c, 204d, 204e, and 204f 
(Appendix M, 40 CFR 51).

5.6 **Formula for Total VOC Vapor Pressure.**

\[
PP_c = \sum_{i=1}^{n} \frac{(W_i)(VP_i)}{MW_i}
\]

\[
= \frac{W_w + \sum_{i=1}^{m} W_{ej} + \sum_{i=1}^{n} W_i}{18/MW_{ej} + MW_i}
\]

*Wi = Weight of the “i”th VOC compound in grams

*Ww = Weight of water in grams

*Wej = Weight of the “j”th non-precursor compound in grams

*MWi = Molecular weight of the “i”th VOC compound in grams per gram mole, e.g., one gram-mole of isopropyl alcohol weighs 60 grams
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\[ M_{Wej} = \text{Molecular weight of the } j\text{th non-precursor compound, e.g., } 1 \text{ gram-mole of acetone weighs 58 grams} \]

\[ PPc = \text{VOC composite partial pressure at } 20^\circ\text{C in mm mercury (Hg)} \]

\[ VPi = \text{Vapor pressure of the } i\text{th VOC compound at } 20^\circ\text{C in mm Hg} \]

\[ 18 = \text{Weight of one gram-mole of water} \]
Part VII. Source/Category Specific Emission Limits for Existing and New Sources

Section 3.0 Nonmetallic Mineral Mining and Processing

1.0 Applicability
   1.1 Prohibitions
   1.2 Exemptions

2.0 Definitions

3.0 Emissions Limitations and Standards
   3.1 Limitations: Nonmetallic Mineral Processing Plants and Concrete Batch Plants
   3.2 Limitations: Hot Mix Asphalt Plants
   3.3 Limitations: Vermiculite and Perlite Processing

4.0 Emissions Control Requirements

5.0 Administrative Requirements
   5.1 Operation and Maintenance (O&M) Requirements for An ECS

6.0 Monitoring and Records
   6.1 Recordkeeping and Reporting

7.0 Compliance Determination
   7.1 Compliance with PM Emissions
   7.2 Compliance with Opacity Limitations

1.0 APPLICABILITY

The provisions of this Section apply to any commercial and/or industrial nonmetallic mineral mining and/or rock product plant, concrete batch plant, hot mix asphalt plant, and vermiculite and/or perlite processing plant operation. Compliance with the provisions of this Section shall not relieve any person subject to the requirements of this Section from complying with any other standards including the New Source Performance Standards in Part II (Permit Requirements). In such case, the more stringent standard shall apply.

1.1 Prohibitions.

A. No person shall sell, offer for sale, use or apply the following materials for paving, construction, or maintenance of highways, streets, driveways, parking lots or for any other use to which this Section applies:

1. Rapid cure cutback asphalt.

2. Any cutback asphalt material, road oils, or tar which contains more than 0.5 percent by volume VOCs which evaporate at 500 degrees Fahrenheit (260 degrees Celsius) or less using ASTM Test Method D 402-02.
3. Any emulsified asphalt or emulsified tar containing more than 3.0 percent by volume VOCs which evaporate at 500 degrees Fahrenheit (260 degrees Celsius) or less as determined by ASTM Method D 244-00.

B. No person shall burn any "off specification fuel oil" as defined in subsection 2.0 of this Section.

C. Any fuel oil combusted must meet the following requirements:

1. All used oil combusted must be certified as on-specification.

2. Used oil ash content shall not exceed 0.15 percent by weight.

1.2 **Exemptions.** The provisions of this Section shall not apply to:

A. Asphalt that is used solely as a penetrating prime coat and which is not a rapid cure cutback asphalt. Penetrating prime coats do not include dust palliatives or tack coats.

B. Any asphalt/bituminous material sold for shipment and use outside GRIC if the person claiming such exemption clearly labels each container of materials entitled to such exemption or upon request (during normal business hours) immediately provides the Director with shipping records demonstrating the asphalt material is not for use within GRIC.

C. A person may use up to three (3) percent solvent-VOC by volume for batches of asphalt rubber which cannot meet paving specifications by adding heat alone only if request is made to the Director, who shall evaluate such requests on a case-by-case basis. The Director shall not approve such requests unless complete records are kept and full information is supplied including savings realized by using discarded tires. The Director shall not approve such requests when it would cause a person to exceed 1100 lbs (500 kg) usage of solvent-VOC in asphalt rubber in a calendar year.

2.0 **Definitions.**

"**Asphaltic Concrete Plant**" or "**Asphalt Plant**" or "**Hot Mix Asphalt Plant**" means any facility used to manufacture asphaltic concrete by mixing graded aggregate and asphaltic cements.

"**Bagging Operation**" means the mechanical process by which bags are filled with nonmetallic minerals.
"Belt Conveyor" means a conveying device that transports material from one location to another by means of an endless belt that is carried on a series of idlers and routed around a pulley at each end.

"Bucket Elevator" means a conveying device of nonmetallic minerals consisting of a head and foot assembly which supports and drives an endless single or double strand chain or belt to which buckets are attached.

"Calciner" means the equipment used to remove combined (chemically bound) water and/or gases from mineral material through direct or indirect heating. This definition includes expansion furnaces.

"Capture System" means the equipment (including enclosures, hoods, ducts, fans, dampers, etc.) used to capture and transport particulate matter generated by one or more process operations to a control device.

"Concrete Plant" means any facility used to manufacture concrete by mixing water, aggregate, and cement.

"Control Device" means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere from one or more process operations at a nonmetallic mineral processing plant.

"Conveying System" means a device for transporting materials from one piece of equipment or location to another location within a plant. Conveying systems include, but are not limited to, the following: feeders, belt conveyors, bucket elevators and pneumatic systems.

"Crusher" means a machine used to crush any nonmetallic minerals, and includes, but is not limited to, the following types: jaw, gyratory, cone, roll, rod mill, hammermill, and impactor.

"Cutback Asphalt" means an asphalt cement liquified with a VOC-containing solvent.

"Cutback Tar" means a tar liquified with a VOC-containing solvent.

"Dryer" means the equipment used to remove uncombined (free) water from mineral material through direct of indirect heating.

"Dry Mix Concrete Plant" means any facility used to manufacture a mixture of aggregate and cements without the addition of water.

"ECS": means emissions control system.

"Enclosed Truck or Railroad Loading Station" means that portion of a nonmetallic mineral processing plant where nonmetallic minerals are loaded by an enclosed conveying system into enclosed trucks or railcars.
"Fugitive Emission(s)" means any emission which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening.

"Grinding Mill" means a machine used for the wet or dry fine crushing of any nonmetallic mineral. Grinding mills include, but are not limited to, the following types: hammer, roller, rod, pebble and ball, and fluid energy. The grinding mill includes the air conveying system, air separator, or air classifier, where such systems are used.

"Nonmetallic Mineral" means any of the following minerals or any mixture of which the majority is any of the following minerals:

| A. Crushed and Broken Stone, including Limestone, Dolomite, Granite, Traprock, Sandstone, Quartz, Quartzite, Marl, Marble, Slate, Shale, Oil Shale, and Shell. |
| B. Sand and Gravel. |
| C. Clay including Kaolin, Fireclay, Bentonite, Fullers Earth, Ball Clay, and Common Clay. |
| D. Rock Salt. |
| E. Gypsum. |
| F. Sodium Compounds, including Sodium Carbonate, Sodium Chloride, and Sodium Sulfate. |
| G. Pumice. |
| H. Gilsonite. |
| I. Talc and Pyrophyllite. |
| J. Boron, including Borax, Kernite, and Colemanite. |
| K. Barite. |
| L. Fluorospar. |
| M. Feldspar. |
| N. Diatomite. |
| O. Perlite. |
| P. Vermiculite. |
Q. Mica.

R. Kyanite, including Andalusite, Sillimanite, Topaz, and Dumortierite.

"Nonmetallic Mineral Processing Plant" means a facility utilizing any combination of equipment or machinery that is used to mine, excavate, separate, combine, crush, or grind any nonmetallic mineral, including, but not limited to: lime plants, coal fired power plants, steel mills, asphalt plants, concrete plants, Portland cement plants, and sand and gravel plants. Rock Product Processing Plants are included in this definition.

"Non-Specification Used Oil" means used oil which meets the specifications established in the solid waste rules at 40 C.F.R. Part 279, Standards for the Management of Used Oil. These specifications include:

<table>
<thead>
<tr>
<th>Constituent/Property</th>
<th>Allowable Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>5 ppmw maximum</td>
</tr>
<tr>
<td>Cadmium</td>
<td>2 ppmw maximum</td>
</tr>
<tr>
<td>Chromium</td>
<td>10 ppmw maximum</td>
</tr>
<tr>
<td>Lead</td>
<td>100 ppmw maximum</td>
</tr>
<tr>
<td>Flash point</td>
<td>100 degrees Fahrenheit minimum</td>
</tr>
<tr>
<td>Total halogens</td>
<td>1000 ppmw maximum</td>
</tr>
</tbody>
</table>

"Penetrating Prime Coat" means the low viscosity liquid asphalt or tar applied to a relatively absorbent surface to prepare it for new superimposed construction. Prime coats do not include dust palliatives or tack coats.

"Rapid Cure Cutback Asphalt" means a cutback asphalt which falls generally within the specifications of ASTM designation D 2028-97 and which generally cures more quickly than medium cure cutback asphalt.

"Screening Operation" means a device for separating material according to size by passing undersize material through one or more mesh surfaces (screens) in series, and retaining oversize material on the mesh surfaces (screens).

"Stack Emissions" means the particulate matter emissions that are released to the atmosphere from a capture system from a building vent, stack, or other point source discharge.

"Storage Bin" means a facility for storage (including surge bins) or nonmetallic minerals prior to further processing or loading.

"Transfer Point" means a point in a conveying operation where the nonmetallic mineral is transferred to or from a belt conveyor except where the nonmetallic mineral is being transferred to a stockpile.
“Truck Dumping” means the unloading of nonmetallic minerals from movable vehicles designed to transport nonmetallic minerals from one location to another. Movable vehicles include, but are not limited to: trucks, front-end loaders, skip hoists, and railcars.

“Vent” means an opening through which there is mechanically induced air flow for the purpose of exhausting from a building air carrying particulate matter.

3.0 EMISSION LIMITATIONS AND STANDARDS

3.1 Limitations: Nonmetallic Mineral Processing Plants and Concrete Batch Plants.

A. Visible Emissions. No person subject to this Section shall cause, permit or allow to be discharged into the ambient air:

1. Visible emissions from any material handling system, conveyance system transfer point, storage silo, surge bin, screening operation, or nonmetallic mineral loading/unloading operation associated with a capture and collection system and vented through a stack exceeding seven (7) percent opacity.

2. Visible emissions from any conveying transfer point exceeding seven (7) percent opacity.

3. Visible emissions from any crusher or crushing operation without a capture and collection system exceeding fifteen (15) percent opacity.

B. Fugitive Emissions. No person subject to this Section shall cause, permit or allow to be discharged into the ambient air:

1. Fugitive emissions from any affected operation or process exceeding ten (10) percent opacity, except as provided in this paragraph B.2. and 3. below.

2. Fugitive emissions from truck dumping of nonmetallic minerals into a screening operation, feed hopper, or crusher, exceeding twenty (20) percent opacity.

3. Fugitive emissions from any other affected operation or process source exceeding twenty (20) percent opacity.

C. Particulate Matter Emissions. No person subject to this Section shall cause, permit or allow to be discharged into the ambient air:

1. PM emissions from any material handling system, conveyance system transfer point, storage silo, surge bin, screening operation, or
nonmetallic mineral loading/unloading operation associated with a capture and collection system and vented through a stack exceeding 0.02 gr/dscf (0.05 g/dscm).

2. PM emissions from any crusher or crushing operation with a capture and collection system exceeding 0.02 gr/dscf (0.05 g/dscm).

3.2 Limitations: Hot Mix Asphalt Plants. No person shall cause, permit or allow to be discharged into the ambient air, emissions in excess of the following limitations:

A. Visible emissions from any dryer exceeding twenty (20) percent opacity.

B. PM emissions from any dryer exceeding 0.04 gr/dscf (0.09 g/dscm).

3.3 Limitations: Vermiculite and Perlite Processing. Except as to an affected facility subject to conditions under Part II, Section 7.0, no person shall cause, permit or allow to be discharged into the ambient air emissions in excess of the following:

A. Visible emissions from any calciner (including exfoliation furnaces and expansion furnaces) or dryer exceeding ten (10) percent opacity.

B. PM emissions from any calciner (including exfoliation furnaces and expansion furnaces) exceeding 0.040 gr/dscf (0.092 g/dscm).

C. PM emissions from any dryer exceeding 0.025 gr/dscf (0.057 g/dscm).

4.0 EMISSIONS CONTROL REQUIREMENTS

Any person subject to this Section shall install and operate a wet dust suppression system (e.g., spray bars on transfer points and sprinklers on stock piles) or other control method approved by the Department in order to minimize fugitive dust emissions from any material handling system, conveyance system transfer point, screening operation or crusher without a capture and collection system, and nonmetallic mineral loading/unloading operation. This requirement does not apply to materials with sufficient moisture content to prevent visible emissions in excess of the limits in subsection 3.0 of this Section.

5.0 ADMINISTRATIVE REQUIREMENTS

5.1 Operation and Maintenance (O&M) Plan Requirements for an ECS.

A. Any owner or operator using an emissions control system to reduce emissions in accordance with this section shall provide to the Department for approval an Operation and Maintenance Plan (“O&M Plan”) at the time the initial permit application is submitted to the Department for an operating permit. The owner or operator shall maintain a copy of the O&M Plan on site. The
O&M Plan shall describe the ECS monitoring devices and indicate temperatures, rates of flow, and other operating conditions necessary to determine if air pollution control equipment is functioning properly and is properly maintained. The O&M Plan shall also describe the procedures to properly install and maintain these devices in calibration, in good working order and in operation.

B. An owner or operator of a facility operating an ECS pursuant to this Section shall install, maintain, and calibrate monitoring devices described in the O&M Plan. The monitoring devices shall measure pressures, rates of flow, and/or other operating conditions necessary to determine if the control devices are functioning properly.

C. An owner or operator of a facility subject to the O&M Plan requirements set forth in this Section shall fully comply with each O&M Plan that the owner or operator has submitted for approval, including all actions and schedules identified therein, even if such O&M Plan has not been approved, unless otherwise notified in writing by the Department.

6.0 MONITORING AND RECORDS

6.1 Recordkeeping and Reporting. An owner or operator subject to this Section shall comply with the following recordkeeping requirements:

A. A daily record of plant operational data shall be kept for each day that a plant is actively operating. Records shall include the following:

1. Production Data:
   a. Hours of operation;
   b. Type of batch operation(s);
   c. Throughput per day of basic raw materials including sand, aggregate, cement, vermiculite, perlite (tons/day);
   d. Volume and weight of final and intermediate products produced per day;
   e. Weight of aggregate mined per day (cu. yds./day);
   f. Kind and amount of fuel consumed in any and all combustion sources (cu. ft./day or gals./day) and fuel sulfur content (for liquid and solid fuel - may be vendor supplied);
g. Kind and amount of any back-up fuel (if any);

h. The number of bags of dry mix produced per day; weight (size) of bags of dry mix produced per day.

2. Control And Monitoring Device Data:

a. Baghouse records shall include dates of inspection, dates and designation of bag replacement, dates of service or maintenance, related activities, static pressure gauge (manometer) readings once per eight-hour shift.

b. Scrubber records shall include dates of service or maintenance related activities; the scrubbing liquid flow rate; the pressure or head loss; and/or any other operating parameters which need to be monitored to assure that the scrubber is functioning properly and operating within design parameters.

c. Records of time, date and cause of all control device failure and down time shall also be maintained.

3. ECS O&M Plan Records:

a. Maintain a record of the periods of time that an approved ECS is utilized to comply with this Section. Key system parameters, such as flow rates, pressure drops, and other conditions necessary to determine if the control equipment is functioning properly, shall be recorded in accordance with an approved O&M Plan. The records shall account for any periods when the control system was not operating. The owner or operator of a facility shall also maintain results of the visual inspection and, if necessary, shall record any corrective action taken.

B. Operational information required by this Section shall be kept in a complete and consistent manner on site and be made available without delay to the Department upon request.

C. Records shall be retained for five (5) years and shall be made available to the Department upon request.

7.0 COMPLIANCE DETERMINATION

7.1 Compliance with PM Emissions. Compliance with PM emission limitations shall be determined using EPA Methods 1 - 5, 40 C.F.R. Part 60, Appendix A or, alternatively, Method 17 may be used if approved by the Department pursuant to a
complete source monitoring/test protocol. Performance testing and monitoring required by this Section shall be performed in accordance with the time frames and methodology contained in 40 C.F.R., Part 60, Appendix A or other applicable federal requirements. For facilities not required to conduct performance testing under federal regulation, the frequency for conducting performance testing shall be, at a minimum, once every five (5) years or at a more frequent interval as determined by the Director. Performance testing requirements shall be established on a case by case basis through the development of an O&M Plan in accordance with subsection 5.1 of this Section.

7.2 **Compliance with Opacity Limitations.** Compliance with opacity limitations shall be determined using Method 9, 40 C.F.R. Part 60, Appendix A, except the opacity observations for intermittent visible emissions shall require twelve (12) rather than twenty-four (24) consecutive readings at fifteen (15) second intervals. Alternatively, Method 22 may be used if approved by the Department pursuant to a complete source monitoring/test protocol. The frequency of opacity readings shall be determined on a source-by-source basis and listed in the source's permit. Frequencies and locations for conducting visible emissions readings shall be prescribed in each facility permit, but shall be no less frequently than once per month. Each facility shall provide for a certified opacity observer to conduct visible emissions readings at locations and on a schedule specified in each individual facility permit.