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INFORMATION
GPO

Subpart D—National Volatile Organic Compound Emission Standards for Architectural Coatings

SOURCE: 63 FR 48877, Sept. 11, 1998, unless otherwise noted.

§ 59.400 Applicability and compliance dates.

(a) Except as provided in paragraphs (b) and (c) of this section, the provisions of this subpart apply to each architectural coating manufactured on or after September 13, 1999 for sale or distribution in the United States.

(b) For any architectural coating registered under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. Section 136, *et seq.*), the provisions of this subpart apply to any such coating manufactured on or after March 13, 2000 for sale or distribution in the United States.

(c) The provisions of this subpart do not apply to any architectural coating described in paragraphs (c)(1) through (c)(5) of this section:

(1) A coating that is manufactured for sale or distribution to architectural coating markets outside the United States; such a coating must not be sold or distributed within the United States as an architectural coating.

(2) A coating that is manufactured prior to September 13, 1999.

(3) A coating that is sold in a nonrefillable aerosol container.

(4) A coating that is collected and redistributed at a paint exchange.

(5) A coating that is sold in a container with a volume of one liter or less.

§ 59.401 Definitions.

Act means the Clean Air Act (42 U.S.C. 7401, *et seq.*, as amended by Pub. L. 101–549, 104 Stat. 2399).

Adhesive means any chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means. Under this subpart, adhesives are not considered coatings.

Administrator means the Administrator of the United States Environmental Protection Agency (U.S. EPA) or an authorized representative.

Antenna coating means a coating formulated and recommended for application to equipment and associated structural appurtenances that are used to receive or transmit electromagnetic signals.

Anti-fouling coating means a coating formulated and recommended for application to submerged stationary structures and their appurtenances to prevent or reduce the attachment of marine or freshwater biological organisms, including, but not limited to, coatings registered with the EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. Section 136, *et seq.*) and nontoxic foul-release coatings.

Anti-graffiti coating means a clear or opaque high performance coating formulated and recommended for application to interior and exterior walls, doors, partitions, fences, signs, and murals to deter adhesion of graffiti and to resist repeated scrubbing and exposure to harsh solvents, cleansers, or scouring agents used to remove graffiti.

Appurtenance means any accessory to a stationary structure, whether installed or detached at the proximate site of installation, including but not limited to: bathroom and kitchen fixtures; cabinets; concrete forms; doors; elevators; fences; hand railings; heating equipment, air conditioning equipment, and other fixed mechanical equipment or stationary tools; lamp posts; partitions; pipes and piping systems; rain gutters and downspouts; stairways, fixed ladders, catwalks, and fire escapes; and window screens.

Architectural coating means a coating recommended for field application to stationary structures and their appurtenances, to portable buildings, to pavements, or to curbs. This definition excludes adhesives and coatings recommended by the manufacturer or importer solely for shop applications or solely for application to non-stationary structures, such as airplanes, ships, boats, and railcars.

Below-ground wood preservative means a coating that is formulated and recommended to protect below-ground wood from decay or insect attack and that is registered with the EPA under the Federal Insecticide, Fungicide, and

Rodenticide Act (7 U.S.C. Section 136, *et seq*.).

Bituminous coating and mastic means a coating or mastic formulated and recommended for roofing, pavement sealing, or waterproofing that incorporates bitumens. Bitumens are black or brown materials including, but not limited to, asphalt, tar, pitch, and asphaltite that are soluble in carbon disulfide, consist mainly of hydrocarbons, and are obtained from natural deposits of asphalt or as residues from the distillation of crude petroleum or coal.

Bond breaker means a coating formulated and recommended for application between layers of concrete to prevent a freshly poured top layer of concrete from bonding to the layer over which it is poured.

Calcimine recoater means a flat solventborne coating formulated and recommended specifically for recoating calcimine-painted ceilings and other calcimine-painted substrates.

Chalkboard resurfacer means a coating formulated and recommended for application to chalkboards to restore a suitable surface for writing with chalk.

Clear means allowing light to pass through, so that the substrate may be distinctly seen.

Coating means a material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealants, inks, maskants, and temporary coatings. Protective, decorative, or functional materials that consist only of solvents, acids, bases, or any combination of these substances are not considered coatings for the purposes of this subpart.

Colorant means a concentrated pigment dispersion of water, solvent, and/or binder that is added to an architectural coating in a paint store or at the site of application to produce the desired color.

Concrete curing compound means a coating formulated and recommended for application to freshly placed concrete to retard the evaporation of water.

Concrete curing and sealing compound means a liquid membrane-forming compound marketed and sold solely for application to concrete surfaces to reduce the loss of water during the hardening process and to seal old and new concrete providing resistance against alkalis, acids, and ultraviolet light, and provide adhesion promotion qualities. The coating must meet the requirements of American Society for Testing and Materials (ASTM) C 1315–95, Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete (incorporated by reference—see § 59.412 of this subpart).

Concrete protective coating means a high-build coating, formulated and recommended, for application in a single coat over concrete, plaster, or other cementitious surfaces. These coatings are formulated to be primerless, one-coat systems that can be applied over form oils and/or uncured concrete. These coatings prevent spalling of concrete in freezing temperatures by providing long-term protection from water and chloride ion intrusion.

Concrete surface retarder means a mixture of retarding ingredients such as extender pigments, primary pigments, resin, and solvent that interact chemically with the cement to prevent hardening on the surface where the retarder is applied, allowing the retarded mix of cement and sand at the surface to be washed away to create an exposed aggregate finish.

Container means the individual receptacle that holds the coating for storage and/or sale or distribution.

Conversion varnish means a clear acid curing coating with an alkyd or other resin blended with amino resins and supplied as a single component or two-component product. Conversion varnishes produce a hard, durable, clear finish designed for professional application to wood flooring. The film formation is the result of an acid-catalyzed condensation reaction, affecting a transetherification at the reactive ethers of the amino resins.

Dry fog coating means a coating formulated and recommended only for spray application such that overspray droplets dry before subsequent contact with incidental surfaces in the vicinity of the surface coating activity.

Exempt compounds means specific organic compounds that are not considered volatile organic compounds (VOC)

due to negligible photochemical reactivity. The exempt compounds are specified in 40 CFR 51.100.

Exterior coating means an architectural coating formulated and recommended for use in conditions exposed to the weather.

Extreme high durability coating means an air dry coating, including a fluoropolymer-based coating, that is formulated and recommended for touchup of precoated architectural aluminum extrusions and panels and to ensure the protection of architectural subsections, and that meets the weathering requirements of American Architectural Manufacturer's Association (AAMA) specification 605–98, Voluntary Specification Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels, Section 7.9 (incorporated by reference—see § 59.412 of this subpart).

Faux-finishing/glazing means a coating used for wet-in-wet techniques, such as faux woodgrain, faux marble, and simulated aging, which require the finish to remain wet for an extended period of time.

Fire-retardant/resistive coating means a coating formulated and recommended to retard ignition and flame spread, or to delay melting or structural weakening due to high heat, that has been fire tested and rated by a certified laboratory for use in bringing buildings and construction materials into compliance with Federal, State, and local building code requirements.

Flat coating means a coating that is not defined under any other definition in this section and that registers gloss less than 15 on an 85-degree meter or less than 5 on a 60-degree meter according to ASTM Method D 523–89, Standard Test Method for Specular Gloss (incorporated by reference—see § 59.412 of this subpart).

Floor coating means an opaque coating with a high degree of abrasion resistance that is formulated and recommended for application to flooring including, but not limited to, decks, porches, and steps in a residential setting.

Flow coating means a coating that is used by electric power companies or their subcontractors to maintain the protective coating systems present on utility transformer units.

Form release compound means a coating formulated and recommended for application to a concrete form to prevent the freshly placed concrete from bonding to the form. The form may consist of wood, metal, or some material other than concrete.

Graphic arts coating or *sign paint* means a coating formulated and recommended for hand-application by artists using brush or roller techniques to indoor or outdoor signs (excluding structural components) and murals including lettering enamels, poster colors, copy blockers, and bulletin enamels.

Heat reactive coating means a high performance phenolic-based coating requiring a minimum temperature of 191 °C (375 °F) to 204 °C (400 °F) to obtain complete polymerization or cure. These coatings are formulated and recommended for commercial and industrial use to protect substrates from degradation and maintain product purity in which one or more of the following extreme conditions exist:

(1) Continuous or repeated immersion exposure of 90 to 98 percent sulfuric acid, or oleum;

(2) Continuous or repeated immersion exposure to strong organic solvents;

(3) Continuous or repeated immersion exposure to petroleum processing at high temperatures and pressures; and

(4) Continuous or repeated immersion exposure to food or pharmaceutical products which may or may not require high temperature sterilization.

High temperature coating means a high performance coating formulated and recommended for application to substrates exposed continuously or intermittently to temperatures above 202 °C (400 °F).

Impacted immersion coating means a high performance maintenance coating formulated and recommended for application to steel structures subject to immersion in turbulent, debris-laden water. These coatings are specifically resistant to high-energy impact damage caused by floating ice or debris.

Imported means that a coating manufactured outside the United States has been brought into the United States for sale or distribution.

Importer means a person that brings architectural coatings into the United States for sale or distribution within the United States. This definition does not include any person that brings a coating into the United States and repackages the coating by transferring it from one container to another, provided the coating VOC content is not altered and the coating is not sold or distributed to another party. For purposes of applying this definition, divisions of a company, subsidiaries, and parent companies are considered to be a single importer.

Industrial maintenance coating means a high performance architectural coating, including primers, sealers, undercoaters, intermediate coats, and topcoats formulated and recommended for application to substrates exposed to one or more of the following extreme environmental conditions in an industrial, commercial, or institutional setting:

(1) Immersion in water, wastewater, or chemical solutions (aqueous and nonaqueous solutions), or chronic exposure of interior surfaces to moisture condensation;

(2) Acute or chronic exposure to corrosive, caustic, or acidic agents, or to chemicals, chemical fumes, or chemical mixtures or solutions;

(3) Repeated exposure to temperatures above 120 °C (250 °F);

(4) Repeated (frequent) heavy abrasion, including mechanical wear and repeated (frequent) scrubbing with industrial solvents, cleansers, or scouring agents; or

(5) Exterior exposure of metal structures and structural components.

Interior clear wood sealer means a low viscosity coating formulated and recommended for sealing and preparing porous wood by penetrating the wood and creating a uniform smooth substrate for a finish coat of paint or varnish.

Interior coating means an architectural coating formulated and recommended for use in conditions not exposed to natural weathering.

Label means any written, printed, or graphic matter affixed to, applied to, attached to, blown into, formed, molded into, embossed on, or appearing upon any architectural coating container for purposes of branding, identifying, or giving information with respect to the product, use of the product, or contents of the container.

Lacquer means a clear or pigmented wood finish, including clear lacquer sanding sealers, formulated with cellulosic or synthetic resins to dry by evaporation without chemical reaction and to provide a solid, protective film. Lacquer stains are considered stains, not lacquers.

Low solids means containing 0.12 kilogram or less of solids per liter (1 pound or less of solids per gallon) of coating material and for which at least half of the volatile component is water.

Magnesite cement coating means a coating formulated and recommended for application to magnesite cement decking to protect the magnesite cement substrate from erosion by water.

Manufactured means that coating ingredients have been combined and put into containers that have been labeled and made available for sale or distribution.

Manufacturer means a person that produces, packages, or repackages architectural coatings for sale or distribution in the United States. A person that repackages architectural coatings as part of a paint exchange, and does not produce, package, or repackage any other architectural coatings for sale or distribution in the United States, is excluded from this definition. A person that repackages a coating by transferring it from one container to another is excluded from this definition, provided the coating VOC content is not altered and the coating is not sold or distributed to another party. For purposes of applying this definition, divisions of a company, subsidiaries, and parent companies are considered to be a single manufacturer.

Mastic texture coating means a coating formulated and recommended to cover holes and minor cracks and to conceal surface irregularities, and is applied in a single coat of at least 10 mils (0.010 inch) dry film thickness.

Megagram means one million grams or 1.102 tons.

Metallic pigmented coating means a nonbituminous coating containing at least 0.048 kilogram of metallic pigment per liter of coating (0.4 pound per

gallon) including, but not limited to, zinc pigment.

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

Nonferrous ornamental metal lacquers and surface protectant means a clear coating formulated and recommended for application to ornamental architectural metal substrates (bronze, stainless steel, copper, brass, and anodized aluminum) to prevent oxidation, corrosion, and surface degradation.

Nonflat coating means a coating that is not defined under any other definition in this section and that registers a gloss of 15 or greater on an 85-degree meter or 5 or greater on a 60-degree meter according to ASTM Method D 523–89, Standard Test Method for Specular Gloss (incorporated by reference—see § 59.412 of this subpart).

Nuclear coating means a protective coating formulated and recommended to seal porous surfaces such as steel (or concrete) that otherwise would be subject to intrusion by radioactive materials. These coatings must be resistant to long-term (service life) cumulative radiation exposure (ASTM Method D 4082–89, Standard Test Method for Effects of Gamma Radiation on Coatings for Use in Light-Water Nuclear Power Plants (incorporated by reference—see § 59.412 of this subpart)), relatively easy to decontaminate, and resistant to various chemicals to which the coatings are likely to be exposed (ASTM Method D 3912–80 (Reapproved 1989), Standard Test Method for Chemical Resistance of Coatings Used in Light-Water Nuclear Power Plants (incorporated by reference—see § 59.412 of this subpart)).

Opaque means not allowing light to pass through, so that the substrate is concealed from view.

Paint exchange means a program in which consumers, excluding architectural coating manufacturers and importers, may drop off and pick up usable post-consumer architectural coatings in order to reduce hazardous waste.

Person means an individual, corporation, partnership, association, State municipality, political subdivision of a State, and any agency, department, or instrumentality of the United States and any officer, agent, or employee thereof.

Pigmented means containing finely ground insoluble powder used to provide one or more of the following properties: color; corrosion inhibition; conductivity; fouling resistance; opacity; or improved mechanical properties.

Post-consumer coating means an architectural coating that has previously been purchased by a consumer or distributed to a consumer but not applied, and reenters the marketplace to be purchased by or distributed to a consumer. Post-consumer coatings include, but are not limited to, coatings collected during hazardous waste collection programs for repackaging or blending with virgin coating materials.

Pretreatment wash primer means a primer that contains a minimum of 0.5 percent acid, by weight, that is formulated and recommended for application directly to bare metal surfaces in thin films to provide corrosion resistance and to promote adhesion of subsequent topcoats.

Primer means a coating formulated and recommended for application to a substrate to provide a firm bond between the substrate and subsequent coatings.

Quick-dry enamel means a nonflat coating that has the following characteristics:

(1) Is capable of being applied directly from the container under normal conditions with ambient temperatures between 16 and 27 °C (60 and 80 °F);

(2) When tested in accordance with ASTM Method D 1640–83 (Reapproved 1989), Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature (incorporated by reference—see § 59.412), sets to touch in 2 hours or less, is tack free in 4 hours or less, and dries hard in 8 hours or less by the mechanical test method; and

(3) Has a dried film gloss of 70 or above on a 60 degree meter.

Quick-dry primer, sealer, and undercoater means a primer, sealer, or undercoater that is dry to the touch in a ½ hour and can be recoated in 2 hours when tested in accordance with ASTM Method D 1640–83 (Reapproved 1989), Standard Test Methods for Drying, Curing, or Film Formation of Organic

Coatings at Room Temperature (incorporated by reference—see § 59.412 of this subpart).

Recycled coating means an architectural coating that contains some portion of post-consumer coating. Recycled architectural coatings include, but are not limited to, post-consumer coatings that have been repackaged or blended with virgin coating materials.

Repackage means to transfer an architectural coating from one container to another.

Repair and maintenance thermoplastic coating means an industrial maintenance coating that has vinyl or chlorinated rubber as a primary resin and is recommended solely for the repair of existing vinyl or chlorinated rubber coatings without the full removal of the existing coating system.

Roof coating means a coating formulated and recommended for application to exterior roofs for the primary purpose of preventing penetration of the substrate by water or reflecting heat and reflecting ultraviolet radiation. This does not include thermoplastic rubber coatings.

Rust preventative coating means a coating formulated and recommended for use in preventing the corrosion of ferrous metal surfaces in residential situations.

Sanding sealer means a clear wood coating formulated and recommended for application to bare wood to seal the wood and to provide a coat that can be sanded to create a smooth surface. A sanding sealer that also meets the definition of a lacquer is not included in this category, but is included in the lacquer category.

Sealer means a coating formulated and recommended for application to a substrate for one or more of the following purposes: to prevent subsequent coatings from being absorbed by the substrate; to prevent harm to subsequent coatings by materials in the substrate; to block stains, odors, or efflorescence; to seal fire, smoke, or water damage; or to condition chalky surfaces.

Semitransparent means not completely concealing the surface of a substrate or its natural texture or grain pattern.

Shellac means a clear or pigmented coating formulated with natural resins (except nitrocellulose resins) soluble in alcohol (including, but not limited to, the resinous secretions of the lac beetle, *Laciffer lacca*). Shellacs dry by evaporation without chemical reaction and provide a quick-drying, solid protective film that may be used for blocking stains.

Shop application means that a coating is applied to a product or a component of a product in a factory, shop, or other structure as part of a manufacturing, production, or repairing process (e.g., original equipment manufacturing coatings).

Stain means a coating that produces a dry film with minimal coloring. This includes lacquer stains.

Stain controller means a conditioner or pretreatment coating formulated and recommended for application to wood prior to the application of a stain in order to prevent uneven penetration of the stain.

Swimming pool coating means a coating formulated and recommended to coat the interior of swimming pools and to resist swimming pool chemicals.

Thermoplastic rubber coating and mastic means a coating or mastic formulated and recommended for application to roofing or other structural surfaces and that incorporates no less than 40 percent by weight of thermoplastic rubbers in the total resin solids and may also contain other ingredients including, but not limited to, fillers, pigments, and modifying resins.

Tint base means a coating to which colorant is added in a paint store or at the site of application to produce a desired color.

Traffic marking coating means a coating formulated and recommended for marking and striping streets, highways, or other traffic surfaces including, but not limited to, curbs, berms, driveways, parking lots, sidewalks, and airport runways.

Undercoater means a coating formulated and recommended to provide a smooth surface for subsequent coatings.

United States means the United States of America, including the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands,

Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

Varnish means a clear or semi-transparent coating, excluding lacquers and shellacs, formulated and recommended to provide a durable, solid, protective film. Varnishes may contain small amounts of pigment to color a surface, or to control the final sheen or gloss of the finish.

Volatile organic compound or *VOC* means any organic compound that participates in atmospheric photochemical reactions, that is, any organic compound other than those which the Administrator designates as having negligible photochemical reactivity. For a list of compounds that the Administrator has designated as having negligible photochemical reactivity, also referred to as exempt compounds, refer to 40 CFR 51.100(s).

VOC content means the weight of VOC per volume of coating, calculated according to the procedures in § 59.406(a) of this subpart.

Waterproofing sealer and treatment means a coating formulated and recommended for application to a porous substrate for the primary purpose of preventing the penetration of water.

Wood preservative means a coating formulated and recommended to protect exposed wood from decay or insect attack, registered with the EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. Section 136, *et seq.*).

Zone marking coating means a coating formulated and recommended for marking and striping driveways, parking lots, sidewalks, curbs, or airport runways, and sold or distributed in a container with a volume of 19 liters (5 gallons) or less.

[63 FR 48877, Sept. 11, 1998; 64 FR 35001, June 30, 1999]

§ 59.402 VOC content limits.

(a) Each manufacturer and importer of any architectural coating subject to this subpart shall ensure that the VOC content of the coating does not exceed the applicable limit in table 1 of this subpart, except as provided in §§ 59.403 and 59.404 of this subpart. Compliance with the VOC content limits will be determined based on the VOC content, as expressed in metric units.

(b) Except as provided in paragraph (c) of this section, if anywhere on the container of any architectural coating, or any label or sticker affixed to the container, or in any sales, advertising, or technical literature supplied by a manufacturer or importer or anyone acting on their behalf, any representation is made that indicates that the coating meets the definition of more than one of the coating categories listed in table 1 of this subpart, then the most restrictive VOC content limit shall apply.

(c) The provision in paragraph (b) of this section does not apply to the coatings described in paragraphs (c)(1) through (c)(15) of this section.

(1) High temperature coatings that also meet the definition for metallic pigmented coatings are subject only to the VOC content limit in table 1 of this subpart for high temperature coatings.

(2) Lacquer coatings (including lacquer sanding sealers) that are also recommended for use in other architectural coating applications to wood, except as stains, are subject only to the VOC content limit in table 1 of this subpart for lacquers.

(3) Metallic pigmented coatings that also meet the definition for roof coatings, industrial maintenance coatings, or primers are subject only to the VOC content limit in table 1 of this subpart for metallic pigmented coatings.

(4) Shellacs that also meet the definition for any other architectural coating are subject only to the VOC content limit in table 1 of this subpart for shellacs.

(5) Fire-retardant/resistive coatings that also meet the definition for any other architectural coating are subject only to the VOC content limit in table 1 of this subpart for fire-retardant/resistive coatings.

(6) Pretreatment wash primers that also meet the definition for primers or that meet the definition for industrial maintenance coatings are subject only to the VOC content limit in table 1 of this subpart for pretreatment wash primers.

(7) Industrial maintenance coatings that also meet the definition for primers, sealers, undercoaters, or mastic

texture coatings are subject only to the VOC content limit in table 1 of this subpart for industrial maintenance coatings.

(8) Varnishes and conversion varnishes that also meet the definition for floor coatings are subject only to the VOC content limit in table 1 of this subpart for varnishes and conversion varnishes, respectively.

(9) Anti-graffiti coatings, high temperature coatings, impacted immersion coatings, thermoplastic rubber coatings and mastics, repair and maintenance thermoplastic coatings, and flow coatings that also meet the definition for industrial maintenance coatings are subject only to the VOC content limit in table 1 of this subpart for their respective categories (i.e., they are not subject to the industrial maintenance coatings VOC content limit in table 1 of this subpart).

(10) Waterproofing sealers and treatments that also meet the definition for quick-dry sealers are subject only to the VOC content limit in table 1 of this subpart for waterproofing sealers and treatments.

(11) Sanding sealers that also meet the definition for quick-dry sealers are subject only to the VOC content limit in table 1 of this subpart for sanding sealers.

(12) Nonferrous ornamental metal lacquers and surface protectants that also meet the definition for lacquers are subject only to the VOC content limit in table 1 of this subpart for nonferrous ornamental metal lacquers and surface protectants.

(13) Quick-dry primers, sealers, and undercoaters that also meet the definition for primers, sealers, or undercoaters are subject only to the VOC content limit in table 1 of this subpart for quick-dry primers, sealers, and undercoaters.

(14) Antenna coatings that also meet the definition for industrial maintenance coatings or primers are subject only to the VOC content limit in table 1 of this subpart for antenna coatings.

(15) Bituminous coatings and mastics that also meet the definition for any other architectural coatings are subject only to the VOC content limit in table 1 of this subpart for bituminous coatings and mastics.

(16) Zone marking coatings that also meet the definition for traffic marking coatings are subject only to the VOC content limit in table 1 of this subpart for zone marking coatings.

(17) Rust preventative coatings that also meet the definition for primers or undercoaters are subject only to the VOC content limit in table 1 of this subpart for rust preventative coatings.

[63 FR 48877, Sept. 11, 1998; 64 FR 35001, June 30, 1999]

§ 59.403 Exceedance fees.

(a) Except as provided in § 59.404 of this subpart, each manufacturer and importer of any architectural coating subject to the provisions of this subpart may exceed the applicable VOC content limit in table 1 of this subpart for the coating if the manufacturer or importer pays an annual exceedance fee. The exceedance fee must be calculated using the procedures in paragraphs (b) and (c) of this section.

(b) The exceedance fee paid by a manufacturer or importer, which is equal to the sum of the applicable exceedance fees for all coatings, must be calculated using equation 1 as follows:

$$\text{Annual Exceedance Fee} = \sum_{c=1}^{n} \text{Coating Fee}_c \qquad (1)$$

Where:

Annual Exceedance Fee = The total annual exceedance fee for a manufacturer or importer, in dollars.

Coating Fee_c = The annual exceedance fee for each coating (c), for which a fee applies, in dollars.

n = number of coatings to which a fee applies.

(c) The exceedance fee to be paid for each coating must be determined using equation 2 as follows:

$$\text{Coating Fee}_c = \text{Fee Rate} \times \text{Excess VOC} \times \text{Volume Manufactured or Imported} \quad (2)$$

Where:

Fee Rate = The rate of $0.0028 per gram of excess VOC.

Excess VOC = The VOC content of the coating, or adjusted VOC content of a recycled coating (if applicable), in grams of VOC per liter of coating, minus the applicable VOC content limit from table 1 of this subpart (that is, VOC content of the coating minus VOC content limit).

Volume Manufactured or Imported = The volume of the coating manufactured or imported per year, in liters, including the volume of any water and exempt compounds and excluding the volume of any colorant added to tint bases. Any volume for which a tonnage exemption is claimed under § 59.404 of this subpart is also excluded.

(d) The exceedance fee shall be submitted to EPA by March 1 following the calendar year in which the coatings are manufactured or imported and shall be sent to the address provided in § 59.409(b).

[63 FR 48877, Sept. 11, 1998; 64 FR 35001, June 30, 1999, as amended at 65 FR 7737, Feb. 16, 2000]

§ 59.404 Tonnage exemption.

(a) Each manufacturer and importer of any architectural coating subject to the provisions of this subpart may designate a limited quantity of coatings to be exempt from the VOC content limits in table 1 of this subpart and the exceedance fee provisions of § 59.403 of this subpart, provided all of the requirements in paragraphs (a)(1) through (a)(4) of this section are met.

(1) The total amount of VOC contained in all the coatings selected for exemption must be equal to or less than 23 megagrams (25 tons) for the period of time from September 13, 1999 through December 31, 2000; 18 megagrams (20 tons) in the year 2001; and 9 megagams (10 tons) per year in the year 2002 and each subsequent year. The amount of VOC contained in each coating shall be calculated using the procedure in paragraph (b) of this section. Compliance with the tonnage exemption will be determined based on the amount of VOC, as expressed in metric units.

(2) The container labeling requirements of § 59.405 of this subpart.

(3) The recordkeeping requirements of § 59.407(c) of this subpart.

(4) The reporting requirements of § 59.408(b) and (e) of this subpart.

(b) Each manufacturer and importer choosing to use the exemption described in paragraph (a) of this section must use equations 3 and 4 to calculate the total amount of VOC for each time period the exemption is elected. The VOC amount shall be determined without colorant that is added after the tint base is manufactured or imported.

$$\text{Total VOC} = \sum_{c=1}^{n} \text{VOC}_c \quad (3)$$

Where:

Total VOC = Total megagrams of VOC contained in all coatings being claimed under the exemption.

VOC_c = Megagrams of VOC, for each coating (c) claimed under the exemption, as computed by equation 4.

n = Number of coatings for which exemption is claimed.

$$\text{VOC}_c = (\text{Volume Manufactured or Imported}) * (\text{VOC Amount}) / 1 \times 10^6 \quad (4)$$

Where:

Volume Manufactured or Imported = Volume of the coating manufactured or imported, in liters, including the volume of any water and exempt compounds and excluding the volume of any colorant added to tint bases, for the time period the exemption is claimed.

VOC Amount = Grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation, including the volume of any water and exempt compounds.

[63 FR 48877, Sept. 11, 1998; 64 FR 35001, June 30, 1999]

§ 59.405 Container labeling requirements.

(a) Each manufacturer and importer of any architectural coating subject to the provisions of this subpart shall provide the information listed in paragraphs (a)(1) through (a)(3) of this section on the coating container in which the coating is sold or distributed.

(1) The date the coating was manufactured, or a date code representing the date shall be indicated on the label, lid, or bottom of the container.

(2) A statement of the manufacturer's recommendation regarding thinning of the coating shall be indicated on the label or lid of the container. This requirement does not apply to the thinning of architectural coatings with water. If thinning of the coating prior to use is not necessary, the recommendation must specify that the coating is to be applied without thinning.

(3) The VOC content of the coating as described in paragraph (a)(3)(i) or (a)(3)(ii) of this section shall be indicated on the label or lid of the container.

(i) The VOC content of the coating, displayed in units of grams of VOC per liter of coating or in units of pounds of VOC per gallon of coating; or

(ii) The VOC content limit in table 1 of this subpart with which the coating is required to comply and does comply, displayed in units of grams of VOC per liter of coating or in units of pounds of VOC per gallon of coating.

(b) In addition to the information specified in paragraph (a) of this section, each manufacturer and importer of any industrial maintenance coating subject to the provisions of this subpart shall display on the label or lid of the container in which the coating is sold or distributed one or more of the descriptions listed in paragraphs (b)(1) through (b)(4) of this section.

(1) ''For industrial use only.''

(2) ''For professional use only.''

(3) ''Not for residential use'' or ''Not intended for residential use.''

(4) ''This coating is intended for use under the following condition(s):'' (Include each condition in paragraphs (b)(4)(i) through (b)(4)(v) of this section that applies to the coating.)

(i) Immersion in water, wastewater, or chemical solutions (aqueous and nonaqueous solutions), or chronic exposure of interior surfaces to moisture condensation;

(ii) Acute or chronic exposure to corrosive, caustic, or acidic agents, or to chemicals, chemical fumes, or chemical mixtures or solutions;

(iii) Repeated exposure to temperatures above 120 °C (250 °F);

(iv) Repeated (frequent) heavy abrasion, including mechanical wear and repeated (frequent) scrubbing with industrial solvents, cleansers, or scouring agents; or

(v) Exterior exposure of metal structures and structural components.

(c) In addition to the information specified in paragraph (a) of this section, each manufacturer and importer of any recycled coating who calculates the VOC content using equations 7 and 8 in §59.406(a)(3) of this subpart shall include the following statement indicating the post-consumer coating content on the label or lid of the container in which the coating is sold or distributed: ''CONTAINS NOT LESS THAN X PERCENT BY VOLUME POST-CONSUMER COATING,'' where ''X'' is replaced by the percent by volume of post-consumer architectural coating.

[63 FR 48877, Sept. 11, 1998; 64 FR 35001, June 30, 1999]

§ 59.406 Compliance provisions.

(a) For the purpose of determining compliance with the VOC content limits in table 1 of this subpart, each manufacturer and importer shall determine the VOC content of a coating using the procedures described in paragraph (a)(1), (a)(2), or (a)(3) of this section, as appropriate. The VOC content of a tint base shall be determined without colorant that is added after the tint base is manufactured or imported.

(1) With the exception of low solids stains and low solids wood preservatives, determine the VOC content in grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation, excluding the volume of any water and exempt compounds. Calculate the VOC content using equation 5 as follows:

$$\text{VOC Content} = \frac{(W_s - W_w - W_{ec})}{(V_m - V_w - V_{ec})} \quad (5)$$

Where:

VOC content = grams of VOC per liter of coating
W_s = weight of volatiles, in grams
W_w = weight of water, in grams
W_{ec} = weight of exempt compounds, in grams
V_m = volume of coating, in liters
V_w = volume of water, in liters
V_{ec} = volume of exempt compounds, in liters

(2) For low solids stains and low solids wood preservatives, determine the VOC content in units of grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation, including the volume of any water and exempt compounds. Calculate the VOC content using equation 6 as follows:

$$\text{VOC Content}_{ls} = \frac{(W_s - W_w - W_{ec})}{(V_m)} \quad (6)$$

Where:

VOC content $_{ls}$ = the VOC content of a low solids coating in grams of VOC per liter of coating
W_s = weight of volatiles, in grams
W_w = weight of water, in grams
W_{ec} = weight of exempt compounds, in grams
V_m = volume of coating, in liters

(3) For recycled coatings, the manufacturer or importer has the option of calculating an adjusted VOC content to account for the post-consumer coating content. If this option is used, the manufacturer or importer shall determine the adjusted VOC content using equations 7 and 8 as follows:

$$\text{Adjusted VOC Content} = \text{Actual VOC Content} - \left(\text{Actual VOC Content}\left(\frac{\text{Percent Post-consumer Coating}}{100}\right)\right) \quad (7)$$

Where:

Adjusted VOC content = The VOC content assigned to the recycled coating for purposes of complying with the VOC content limits in table 1 of this subpart.
Actual VOC content = The VOC content of the coating as determined using equation 5 in paragraph (a)(1) of this section.
Percent Post-consumer Coating = The volume percent of a recycled coating that is post-consumer coating materials (as determined in equation 8)

$$\text{Percent Post-consumer Coating} = \frac{\text{Volume of Post-consumer Coating}}{(\text{Volume of Post-consumer Coating} + \text{Volume of Virgin Materials})} \times 100 \text{ Percent} \quad (8)$$

Where:

Percent Post-consumer Coating = The volume percent of a recycled coating that is post-consumer coating materials.
Volume of Post-consumer Coating = The volume, in liters, of post-consumer coating materials used in the production of a recycled coating.
Volume of Virgin Materials = The volume, in liters, of virgin coating materials used in the production of a recycled coating.

(b) To determine the composition of a coating in order to perform the calculations in paragraph (a) of this section, the reference method for VOC content is Method 24 of appendix A of 40 CFR part 60, except as provided in paragraphs (c) and (d) of this section. To determine the VOC content of a coating, the manufacturer or importer may use Method 24 of appendix A of 40 CFR part 60, an alternative method as provided in paragraph (c) of this section, formulation data, or any other reasonable means for predicting that the coating has been formulated as intended (e.g., quality assurance checks, recordkeeping). However, if there are any inconsistencies between the results of a Method 24 test and any other means for determining VOC content, the Method 24 test results will govern, except as provided in paragraph (c) of this section. The Administrator may

require the manufacturer or importer to conduct a Method 24 analysis.

(c) The Administrator may approve, on a case-by-case basis, a manufacturer's or importer's use of an alternative method in lieu of Method 24 for determining the VOC content of coatings if the alternative method is demonstrated to the Administrator's satisfaction to provide results that are acceptable for purposes of determining compliance with this subpart.

(d) Analysis of methacrylate multicomponent coatings used as traffic marking coatings shall be conducted according to the procedures specified in appendix A to this subpart. Appendix A to this subpart is a modification of Method 24 of appendix A of 40 CFR part 60. The modification of Method 24 provided in appendix A to this subpart has not been approved for methacrylate multicomponent coatings used for other purposes than as traffic marking coatings or for other classes of multicomponent coatings.

(e) The Administrator may determine a manufacturer's or importer's compliance with the provisions of this subpart based on information required by this subpart (including the records and reports required by §§ 59.407 and 59.408 of this subpart) or any other information available to the Administrator.

§ 59.407 Recordkeeping requirements.

(a) Each manufacturer and importer using the provisions of § 59.406(a)(3) of this subpart to determine the VOC content of a recycled coating shall maintain in written or electronic form records of the information specified in paragraphs (a)(1) through (a)(6) of this section for a period of 3 years.

(1) The minimum volume percent post-consumer coating content for each recycled coating.

(2) The volume of post-consumer coating received for recycling.

(3) The volume of post-consumer coating received that was unusable.

(4) The volume of virgin materials.

(5) The volume of the final recycled coating manufactured or imported.

(6) Calculations of the adjusted VOC content as determined using equation 7 in § 59.406(a)(3) of this subpart for each recycled coating.

(b) Each manufacturer and importer using the exceedance fee provisions in § 59.403 of this subpart, as an alternative to achieving the VOC content limits in table 1 of this subpart, shall maintain in written or electronic form the records specified in paragraphs (b)(1) through (b)(7) of this section for a period of 3 years.

(1) A list of the coatings and the associated coating categories in table 1 of this subpart for which the exceedance fee is used.

(2) Calculations of the annual fee for each coating and the total annual fee for all coatings using the procedure in § 59.403 (b) and (c) of this subpart.

(3) The VOC content of each coating in grams of VOC per liter of coating.

(4) The excess VOC content of each coating in grams of VOC per liter of coating.

(5) The total volume of each coating manufactured or imported per calendar year, in liters, including the volume of any water and exempt compounds and excluding the volume of any colorant added to tint bases.

(6) The annual fee for each coating.

(7) The total annual fee for all coatings.

(c) Each manufacturer and importer claiming the tonnage exemption in § 59.404 of this subpart shall maintain in written or electronic form the records specified in paragraphs (c)(1) through (c)(4) of this section for a period of 3 years.

(1) A list of all coatings and associated coating categories in table 1 of this subpart for which the exemption is claimed.

(2) The VOC amount as used in equation 4.

(3) The volume manufactured or imported, in liters, for each coating for which the exemption is claimed for the time period the exemption is claimed.

(4) The total megagrams of VOC contained in each coating for which the exemption is claimed, and for all coatings combined for which the exemption is claimed, for the time period the exemption is claimed, as calculated in § 59.404(b) of this subpart.

[63 FR 48877, Sept. 11, 1998; 64 FR 35001, June 30, 1999]

§ 59.408 Reporting requirements.

(a) Each manufacturer and importer of any architectural coating subject to the provisions of this subpart shall submit reports and exceedance fees specified in this section to the appropriate address as listed in § 59.409 of this subpart.

(b) Each manufacturer and importer of any architectural coating subject to the provisions of this subpart shall submit an initial notification report no later than the applicable compliance date specified in § 59.400, or within 180 days after the date that the first architectural coating is manufactured or imported, whichever is later. The initial report must include the information in paragraphs (b)(1) through (b)(3) of this section.

(1) The name and mailing address of the manufacturer or importer.

(2) The street address of each one of the manufacturer's or importer's facilities in the United States that is producing, packaging, or repackaging any architectural coating subject to the provisions of this subpart.

(3) A list of the categories from table 1 of this subpart for which the manufacturer's or importer's coatings meet the definitions in § 59.401 of this subpart.

(4) If a date code is used on a coating container to represent the date a coating was manufactured, as allowed in § 59.405(a)(1) of this subpart, the manufacturer or importer of the coating shall include an explanation of each date code in the initial notification report and shall submit an explanation of any new date code no later than 30 days after the new date code is first used on the container for a coating.

(c) Each manufacturer and importer of a recycled coating that chooses to determine the adjusted VOC content according to the provisions of § 59.406(a)(3) to demonstrate compliance with the applicable VOC content limit in table 1 of this subpart shall submit a report containing the information in paragraphs (c)(1) through (c)(5) of this section. The report must be submitted for each coating for which the adjusted VOC content is used to demonstrate compliance. This report must be submitted by March 1 of the year following any calendar year in which the adjusted VOC content provision is used.

(1) The minimum volume percent post-consumer coating content for each recycled coating.

(2) The volume of post-consumer coating received for recycling.

(3) The volume of post-consumer coating received that was unusable.

(4) The volume of virgin materials used.

(5) The volume of the final recycled coating manufactured or imported.

(d) Each manufacturer and importer that uses the exceedance fee provisions of § 59.403 of this subpart shall report the information in paragraphs (d)(1) through (d)(7) of this section for each coating for which the exceedance fee provisions are used. This report and the exceedance fee payment must be submitted by March 1 following the calendar year in which the coating is manufactured or imported.

(1) Manufacturer's or importer's name and mailing address.

(2) A list of all coatings and the associated coating categories in table 1 of this subpart for which the exceedance fee provision is being used.

(3) The VOC content of each coating that exceeds the applicable VOC content limit in table 1 of this subpart.

(4) The excess VOC content of each coating in grams of VOC per liter of coating.

(5) The total volume of each coating manufactured or imported per calendar year, in liters, including the volume of any water and exempt compounds and excluding the volume of any colorant added to tint bases.

(6) The annual fee for each coating.

(7) The total annual fee for all coatings.

(e) Each manufacturer and importer of architectural coatings for which a tonnage exemption under § 59.404 of this subpart is claimed shall submit a report no later than March 1 of the year following the calendar year in which the exemption was claimed. The report must include the information in paragraphs (f)(1) through (f)(4) of this section.

(1) A list of all coatings and the associated coating categories in table 1 of this subpart for which the exemption was claimed.

(2) The VOC amount as used in equation 4.

(3) The volume manufactured or imported, in liters, for each coating for which the exemption is claimed for the time period the exemption is claimed.

(4) The total megagrams of VOC contained in all coatings for which the exemption was claimed for the time period the exemption was claimed, as calculated in § 59.404(b) of this subpart.

[63 FR 48877, Sept. 11, 1998; 64 FR 35001, June 30, 1999]

§ 59.409 Addresses of EPA Offices.

(a) Except for exceedance fee payments, each manufacturer and importer of any architectural coating subject to the provisions of this subpart shall submit all requests, reports, submittals, and other communications to the Administrator pursuant to this regulation to the Regional Office of the U.S. Environmental Protection Agency that serves the State or Territory in which the corporate headquarters of the manufacturer or importer resides. These areas are indicated in the following list of EPA Regional Offices:

EPA Region I (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont), Director, Office of Environmental Stewardship, Mailcode: OES04–5, 5 Post Office Square—Suite 100, Boston, MA 02109–3912.

EPA Region II (New Jersey, New York, Puerto Rico, Virgin Islands), Director, Division of Enforcement and Compliance Assistance, 290 Broadway, New York, NY 10007–1866.

EPA Region III (Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia), Director, Air Protection Division, 1650 Arch Street, Philadelphia, PA 19103.

EPA Region IV (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee), Director, Air, Pesticides, and Toxics Management Division, 61 Forsyth Street, Atlanta, GA 30303.

EPA Region V (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin), Director, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, IL 60604–3507.

EPA Region VI (Arkansas, Louisiana, New Mexico, Oklahoma, Texas), Director, Multimedia Planning and Permitting Division, 1445 Ross Avenue, Dallas, TX 75202–2733.

EPA Region VII (Iowa, Kansas, Missouri, Nebraska), Director, Air and Waste Management Division, 11201 Renner Boulevard, Lenexa, Kansas 66219.

EPA Region VIII (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming), Director, Office of Partnerships and Regulatory Assistance, 999 18th Street, Suite 500, Denver, Colorado 80202–2466.

EPA Region IX (American Samoa, Arizona, California, Guam, Hawaii, Nevada), Director, Air Division, 75 Hawthorne Street, San Francisco, CA 94105.

EPA Region X (Alaska, Oregon, Idaho, Washington), Director, Office of Air Quality, 1200 Sixth Avenue, Seattle, WA 98101.

(b) Each manufacturer and importer who uses the exceedance fee provisions of § 59.403 shall submit the exceedance fee payment required by § 59.408(d) to the following address: Environmental Protection Agency, AIM Exceedance Fees, Post Office Box 371293M, Pittsburgh, PA 15251. This address is for the fee payment only; the exceedance fee report required by § 59.408(d) is to be submitted to the appropriate EPA Regional Office listed in paragraph (a) of this section. The exceedance fee payment in the form of a check or money order must be made payable to ''U.S. Environmental Protection Agency'' or ''US EPA.''

[63 FR 48877, Sept. 11, 1998; 64 FR 35001, June 30, 1999, as amended at 65 FR 7737, Feb. 16, 2000; 76 FR 49672, Aug. 11, 2011; 78 FR 37976, June 25, 2013]

§ 59.410 State authority.

The provisions of this subpart must not be construed in any manner to preclude any State or political subdivision thereof from:

(a) Adopting and enforcing any emissions standard or limitation applicable to a manufacturer or importer of architectural coatings; or

(b) Requiring the manufacturer or importer of architectural coatings to obtain permits, licenses, or approvals prior to initiating construction, modification, or operation of a facility for manufacturing an architectural coating.

§ 59.411 Circumvention.

Each manufacturer and importer of any architectural coating subject to the provisions of this subpart must not alter, destroy, or falsify any record or

report, to conceal what would otherwise be noncompliance with this subpart. Such concealment includes, but is not limited to, refusing to provide the Administrator access to all required records and date-coding information, altering the VOC content of a coating batch, or altering the results of any required tests to determine VOC content.

§ 59.412 Incorporations by reference.

(a) The materials listed in this section are incorporated by reference in the paragraphs noted in § 59.401. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of the approval, and notice of any changes in these materials will be published in the FEDERAL REGISTER. The materials are available for purchase at the corresponding addresses noted below, and all are available for inspection at the Air and Radiation Docket and Information Center, U.S. EPA, 401 M St., SW., Washington, DC 20460; at the EPA Library (MD–35), U.S. EPA, Research Triangle Park, North Carolina; or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html*.

(b) The materials listed below are available for purchase at the following address: American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959.

(1) ASTM Method C 1315–95, Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete, incorporation by reference approved for § 59.401, *Concrete curing and sealing compound*.

(2) ASTM Method D 523–89, Standard Test Method for Specular Gloss, incorporation by reference approved for § 59.401, *Flat coating* and *Nonflat coating*.

(3) ASTM Method D 1640–83 (Reapproved 1989), Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature, incorporation by reference approved for § 59.401, *Quick-dry enamel* and *Quick-dry primer, sealer, and undercoater*.

(4) ASTM Method D 3912–80 (Reapproved 1989), Standard Test Method for Chemical Resistance of Coatings Used in Light-Water Nuclear Power Plants, incorporation by reference approved for § 59.401, *Nuclear coating*.

(5) ASTM Method D 4082–89, Standard Test Method for Effects of Gamma Radiation on Coatings for Use in Light-Water Nuclear Power Plants, incorporation by reference approved for § 59.401, *Nuclear coating*.

(c) The following material is available from the AAMA, 1827 Walden Office Square, Suite 104, Schaumburg, IL 60173.

(1) AAMA 605–98, Voluntary Specification Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels, incorporation by reference approved for § 59.401, *Extreme high durability coating*.

(2) [Reserved]

[63 FR 48877, Sept. 11, 1998, as amended at 69 FR 18803, Apr. 9, 2004]

§ 59.413 Availability of information and confidentiality.

(a) *Availability of information.* The availability to the public of information provided to or otherwise obtained by the Administrator under this part shall be governed by part 2 of this chapter.

(b) *Confidentiality.* All confidential business information entitled to protection under section 114(c) of the Act that must be submitted or maintained by each manufacturer or importer of architectural coatings pursuant to this section shall be treated in accordance with 40 CFR part 2, subpart B.

APPENDIX A TO SUBPART D OF PART 59—DETERMINATION OF VOLATILE MATTER CONTENT OF METHACRYLATE MULTICOMPONENT COATINGS USED AS TRAFFIC MARKING COATINGS

1.0 PRINCIPLE AND APPLICABILITY

1.1 Applicability. This modification to Method 24 of appendix A of 40 CFR part 60 applies to the determination of volatile matter content of methacrylate multicomponent coatings used as traffic marking coatings.

1.2 Principle. A known amount of methacrylate multicomponent coating is dispersed in a weighing dish using a stirring device before the volatile matter is removed by heating in an oven.

2.0 PROCEDURE

2.1 Prepare about 100 milliliters (mL) of sample by mixing the components in a storage container, such as a glass jar with a screw top or a metal can with a cap. The storage container should be just large enough to hold the mixture. Combine the components (by weight or volume) in the ratio recommended by the manufacturer. Tightly close the container between additions and during mixing to prevent loss of volatile materials. Most manufacturers' mixing instructions are by volume. Because of possible error caused by expansion of the liquid when measuring the volume, it is recommended that the components be combined by weight. When weight is used to combine the components and the manufacturer's recommended ratio is by volume, the density must be determined by section 3.5 of Method 24 of appendix A of 40 CFR part 60.

2.2 Immediately after mixing, take aliquots from this 100 mL sample for determination of the total volatile content, water content, and density. To determine water content, follow section 3.4 of Method 24 of appendix A of 40 CFR part 60. To determine density, follow section 3.5 of Method 24. To determine total volatile content, use the apparatus and reagents described in section 3.8.2 of Method 24 and the following procedures:

2.2.1 Weigh and record the weight of an aluminum foil weighing dish and a metal paper clip. Using a syringe as specified in section 3.8.2.1 of Method 24, weigh to 1 milligrams (mg), by difference, a sample of coating into the weighing dish. For methacrylate multicomponent coatings used for traffic marking use 3.0 ±0.1 g.

2.2.2 Add the specimen and use the metal paper clip to disperse the specimen over the surface of the weighing dish. If the material forms a lump that cannot be dispersed, discard the specimen and prepare a new one. Similarly, prepare a duplicate. The sample shall stand for a minimum of 1 hour, but no more than 24 hours before being oven dried at 110 ±5 degrees Celsius for 1 hour.

2.2.3 Heat the aluminum foil dishes containing the dispersed specimens in the forced draft oven for 60 minutes at 110 ±5 degrees Celsius. Caution—provide adequate ventilation, consistent with accepted laboratory practice, to prevent solvent vapors from accumulating to a dangerous level.

2.2.4 Remove the dishes from the oven, place immediately in a desiccator, cool to ambient temperature, and weigh to within 1 mg. After weighing, break up the film of the coating using the metal paper clip. Weigh dish to within 1 mg. Return to forced draft oven for an additional 60 minutes at 110 ±5 degrees Celsius.

2.2.5 Remove the dishes from the oven, place immediately in a desiccator, cool to ambient temperature, and weigh to within 1 mg.

2.2.6 Run analyses in pairs (duplicate sets for each coating mixture until the criterion in section 4.3 of Method 24 of appendix A of 40 CFR part 60 is met. Calculate the weight of volatile matter for each heating period following Equation 24–2 of Method 24 and record the arithmetic average. Add the arithmetic average for the two heating periods to obtain the weight fraction of the volatile matter.

3.0 DATA VALIDATION PROCEDURE

3.1 Follow the procedures in Section 4 of Method 24 of appendix A to 40 CFR part 60.

3.2 If more than 10 percent of the sample is lost when the sample is being broken up in 2.2.4, the sample is invalid.

4.0 CALCULATIONS

Follow the calculation procedures in Section 5 of Method 24 of appendix A of 40 CFR part 60.

TABLE 1 TO SUBPART D OF PART 59—VOLATILE ORGANIC COMPOUND (VOC), CONTENT LIMITS FOR ARCHITECTURAL COATINGS

[Unless otherwise specified, limits are expressed in grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation excluding the volume of any water, exempt compounds, or colorant added to tint bases.]

Coating category	Grams VOC per liter	Pounds VOC per gallon [a]
Antenna coatings	530	4.4
Anti-fouling coatings	450	3.8
Anti-graffiti coatings	600	5.0
Bituminous coatings and mastics	500	4.2
Bond breakers	600	5.0
Calcimine recoater	475	4.0
Chalkboard resurfacers	450	3.8
Concrete curing compounds	350	2.9
Concrete curing and sealing compounds	700	5.8

[Unless otherwise specified, limits are expressed in grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation excluding the volume of any water, exempt compounds, or colorant added to tint bases.]

Coating category	Grams VOC per liter	Pounds VOC per gallon [a]
Concrete protective coatings	400	3.3
Concrete surface retarders	780	6.5
Conversion varnish	725	6.0
Dry fog coatings	400	3.3
Extreme high durability coatings	800	6.7
Faux finishing/glazing	700	5.8
Fire-retardant/resistive coatings:		
Clear	850	7.1
Opaque	450	3.8
Flat coatings:		
Exterior coatings	250	2.1
Interior coatings	250	2.1
Floor coatings	400	3.3
Flow coatings	650	5.4
Form release compounds	450	3.8
Graphic arts coatings (sign paints)	500	4.2
Heat reactive coatings	420	3.5
High temperature coatings	650	5.4
Impacted immersion coatings	780	6.5
Industrial maintenance coatings	450	3.8
Lacquers (including lacquer sanding sealers)	680	5.7
Magnesite cement coatings	600	5.0
Mastic texture coatings	300	2.5
Metallic pigmented coatings	500	4.2
Multi-colored coatings	580	4.8
Nonferrous ornamental metal lacquers and surface protectants	870	7.3
Nonflat coatings:		
Exterior coatings	380	3.2
Interior coatings	380	3.2
Nuclear coatings	450	3.8
Pretreatment wash primers	780	6.5
Primers and undercoaters	350	2.9
Quick-dry coatings:		
Enamels	450	3.8
Primers, sealers, and undercoaters	450	3.8
Repair and maintenance thermoplastic coatings	650	5.4
Roof coatings	250	2.1
Rust preventative coatings	400	3.3
Sanding sealers (other than lacquer sanding sealers)	550	4.6
Sealers (including interior clear wood sealers)	400	3.3
Shellacs:		
Clear	730	6.1
Opaque	550	4.6
Stains:		
Clear and semitransparent	550	4.6
Opaque	350	2.9
Low solids	[b] 120	[b] 1.0
Stain controllers	720	6.0
Swimming pool coatings	600	5.0
Thermoplastic rubber coatings and mastics	550	4.6
Traffic marking coatings	150	1.3
Varnishes	450	3.8
Waterproofing sealers and treatments	600	5.0
Wood preservatives:		
Below ground wood preservatives	550	4.6
Clear and semitransparent	550	4.6
Opaque	350	2.9
Low solids	[b] 120	[b] 1.0
Zone marking coatings	450	3.8

[a] English units are provided for information only. Compliance will be determined based on the VOC content limit, as expressed in metric units.

[b] Units are grams of VOC per liter (pounds of VOC per gallon) of coating, including water and exempt compounds, thinned to the maximum thinning recommended by the manufacturer.

[63 FR 48877, Sept. 11, 1998; 63 FR 55175, Oct. 14, 1998; 63 FR 32103, June 15, 1999; 64 FR 35002, June 30, 1999]