AUTHENTICATED
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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