

100 Air Quality Management Section

1124 Control of Volatile Organic Compound Emissions

2.0 Definitions

04/11/2010

For the purpose of this regulation, the following definitions apply:

“Actual emissions” means the quantity VOCs emitted from a source during a particular time period.

“Adhesion primer” means a coating that is applied to thermoplastic olefin (TPO) parts to promote adhesion of subsequent coatings. An adhesion primer is clearly identified as an adhesion primer or adhesion promoter on its accompanying material safety data sheet.

“Aerosol coating product” means a pressurized coating product containing pigments or resins that dispenses product ingredients by means of a propellant and is packaged in a disposable can for hand-held application, or for use in specialized equipment for ground traffic marking applications.

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

“As applied” means including any dilution solvents added before application of the coating.

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

“Basecoat” means a pigmented topcoat that is the first coat applied as part of a multistage topcoat system.

“Bulk gasoline plant” means a gasoline storage and distribution facility with an average daily throughput of 76,000 liters (L) (20,000 gallons [gal]) of gasoline or less on a monthly average.

“Bulk gasoline terminal” means a gasoline storage facility that receives gasoline from refineries, delivers gasoline to bulk gasoline plants or to commercial or retail accounts, and has a daily throughput of more than 76,000 L (20,000 gal) of gasoline on a monthly average.

“Capture efficiency” means the weight per unit time of VOC entering a capture system and delivered to a control device divided by the weight per unit time of total VOC generated by a source of VOC, expressed as a percentage.

“Capture system” means all equipment (including, but not limited to, hoods, ducts, fans, booths, ovens, dryers, etc.) that contains, collects, and transports an air pollutant to a control device.

“Carbon absorber” means an add-on control device that uses activated carbon to absorb VOCs from a gas stream.

“Carbon adsorption system” means a carbon adsorber with an inlet and outlet for exhaust gases and a system to regenerate the saturated adsorbent.

“Clearcoat” means a topcoat that contains no pigments or only transparent pigments and that is the final coat applied as part of a multistage topcoat system.

“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, adhesives, inks, maskants, and temporary protective coatings.

“Coating unit” means a series of one or more coating applicators and any associated drying area or oven wherein a coating is applied, dried, or cured. A coating unit ends at the point where the coating is dried or cured, or prior to any subsequent application of a different coating. It is not necessary to have an oven or a flash-off area in order to be included in this definition.

“Continuous vapor control system” means a vapor control system that treats vapors displaced from tanks during filling on a demand basis without intermediate accumulation.

“Control device” means equipment (such as an incinerator or carbon adsorber) used to reduce, by destruction or removal, the amount of air pollutant or pollutants in an air stream prior to discharge to the ambient air.

“Control system” means a combination of one or more capture system or systems and control device or devices working in concert to reduce discharges of pollutants to the ambient air.

“Day” means a period of 24 consecutive hours beginning at midnight local time, or beginning at a time consistent with a facility's operating schedule.

“Destruction or removal efficiency” means the amount of VOC destroyed or removed by a control device expressed as a percent of the total amount of VOC entering the device.

“Dip coating” means the application method of a coating material to a substrate by dipping the part into a tank of coating material.

“Double block-and-bleed system” means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

“Electric-insulating and thermal-conducting coating” means a coating that displays an electrical insulation of at least 1000 volts DC per mil on a flat test plate and an average thermal conductivity of at least 0.27 BTU per hour-foot-degree Fahrenheit.

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

“Exempt compounds” means any of the compounds listed in 2.0 of 7 DE Admin. Code 1101 - Definitions, “Volatile Organic Compounds,” which have been determined to have negligible photochemical reactivity.

For determining compliance with emission limits, VOCs will be measured according to the procedures in Methods 25 and 25A of Appendix A of 40 CFR, Part 60, and the procedures and equations in §60.755. Where such a method also measures compounds with negligible photochemical reactivity, an owner or operator may exclude these negligibly-reactive compounds when determining compliance with an emission standard. However, the Department may require such owner or operator, as a precondition to excluding these compounds for purposes of determining compliance, to provide monitoring methods and monitoring results demonstrating, to the satisfaction of the Department, the amount of negligibly-reactive compounds in the sources emissions.

In addition to the procedures for requesting a satisfactory compliance determination, where the Department proposes to allow the use of a test method for excluding negligibly-reactive compounds that is different or not specified in the approved SIP, such change shall be submitted to the U.S. EPA for approval as part of a SIP revision.

“External floating roof” means a cover over an open-top storage tank consisting of a double deck or pontoon single deck that rests upon and is supported by the volatile organic liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.

“Extreme high-gloss coating” means a coating which, when tested by ASTM International Method D-523, adopted in 1980, shows a reflectance of 75 or more on a 60⁰ meter.

“Extreme performance coating” means a coating used on a metal surface where the coated surface is, in its intended use, subject to the following; (a) chronic exposure to corrosive, caustic or acidic agents, chemicals, chemical fumes, chemical mixtures or solutions; or (b) repeated exposure to temperatures in excess of 250 ⁰F; or (c) repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial grade solvents, cleansers or scouring agents.

“Facility” means all of the pollutant-emitting activities, excluding pollutant-emitting activities from mobile sources that are located on one or more contiguous or adjacent properties, and are under the control of the same person (or person under common control).

“First attempt at repair” means to take rapid action for the purpose of stopping or reducing leakage of organic material to the atmosphere using best practices.

“Flash-off area” means the space between the coating application area and the oven.

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

“Gasoline tank truck” means a delivery tank truck used at bulk gasoline plants, bulk gasoline terminals, or gasoline dispensing facilities that is loading or unloading gasoline or that has loaded or unloaded gasoline on the immediately previous load.

“Gloss flattener” means a low-gloss coating that is formulated to eliminate glare on the interior surfaces of a vehicle for safety purposes, as specified under the U.S. Department of Transportation Motor Vehicle Safety Standards.

“Hand application” means a method of applying coatings by non-mechanical hand-held equipment, including, but not limited to, paint brushes, hand rollers, caulking guns, trowels, spatulas, syringe daubers, rags and sponges.

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

“Heavy-duty truck” means any motor vehicle rated at greater than 3,864 kg (8,500 lb) gross weight designed primarily to transport property.

“High-volume, low-pressure (HVLP) spray equipment” means spray equipment that is used to apply coatings using a spray gun that operates less than or equal to 10 psig of atomized air pressure at the air cap.

“Incinerator” means a combustion apparatus in which solid, semisolid, liquid, or gaseous combustible wastes are ignited and burned and from which the solid and gaseous residues contain little or no combustible material.

“Intermittent vapor control system” means a vapor control system that employs an intermediate vapor holder to accumulate vapors displaced from tanks during filling. The control device treats the accumulated vapors only during automatically controlled cycles.

“Internal Floating Roof” means a cover or roof in a fixed-roof tank that rests upon or is floated upon, the liquid being contained, and is equipped with a closure seal or seals to close the space between the roof edge and the tank shell.

“Knife coating” means the application of a coating material to a substrate by means of drawing the substrate beneath a knife that spreads the coating evenly over the full width of the substrate.

“Leak” means a VOC emission indicated by an instrument calibrated according to Method 21 of 40 CFR, Part 60, Appendix A, using zero air (less than 10 parts per million [ppm] of hydrocarbon in air) and a mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane.

“Lease custody transfer” means the transfer of produced crude oil or condensate, after processing or treating in the producing operations, from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.

“Liquid-mounted seal” means a primary seal mounted in continuous contact with the liquid between the tank wall and the floating roof around the circumference of the tank.

“Loading rack” means an aggregation or combination of gasoline loading equipment arranged so that all loading outlets in the combination can be connected to a tank truck or trailer parked in a specified loading space.

“Lower explosive limit” (LEL) means the concentration of a compound in air below which a flame will not propagate if the mixture is ignited.

“Maximum theoretical emissions” means the quantity of VOC that theoretically could be emitted by a source without control devices based on the design capacity or maximum production capacity of the source and 8,760 hours of operation per year. The design capacity or maximum production capacity includes use of coatings and inks with the highest VOC content used in practice by the source for the two preceding years.

“Maximum true vapor pressure” means the equilibrium partial pressure exerted by a stored liquid at the temperature equal to:

1. for liquids stored above or below the ambient temperature, the highest calendar-month average of the liquid storage temperature, or
2. for liquids stored at the ambient temperature, the local maximum monthly average temperature as reported by the National Weather Service. This pressure shall be determined by one of the following:
 - i. In accordance with methods described in American Petroleum Institute Bulletin 2517, "Evaporation Loss From External Floating Roof Tanks."
 - ii. By using standard reference texts.
 - iii. By ASTM D2879-83.
 - iv. By any other method approved by the Department as part of the State Implementation Plan (SIP) Revision.

“Metallic coating” means a coating which contains more than 5 grams of metal particles per liter of coating, as applied. Metal particles are pieces of a pure elemental metal or a combination of elemental metals.

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

“Multi-component coating” means a coating which is packaged in two or more parts, which parts are combined before application, and where a coreactant from one part of the coating chemically reacts, at ambient conditions, with a coreactant from another part of the coating.

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

“Open-ended valve or line” means any valve, except safety relief valves, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.

“Organic compound” means any carbon-containing chemical compound excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.

“Oven” means a chamber which is used to bake, cure, polymerize, or dry a coating.

“Overall emission reduction efficiency” means the weight per unit time of VOC removed or destroyed by a control device divided by the weight per unit time of VOC generated by a source, expressed as a percentage. The overall emission reduction efficiency can also be calculated as the product of the capture efficiency and the control device destruction or removal efficiency.

“Owner or Operator” means any person who owns, leases, controls, operates or supervises a facility, a source, or air pollution control or monitoring equipment.

“Person” means any individual, partnership, copartnership, firm, company, corporation, association, joint stock company, trust, estate, political subdivision, or any other legal entity, or their legal representative, agent, or assigns.

“Petroleum” means the crude oil removed from the earth and the oils derived from tar sands, shale and coal.

“Petroleum Liquid” means petroleum condensate, and any finished or intermediate products manufactured in a petroleum refinery.

“Plastisol” means a coating made of a mixture of finely divided resin and a plasticizer. Plastisol is applied as a thick gel that solidifies when heated.

“Press-Ready Ink” means the ink, as applied to the substrate, after all solvents and diluents have been added.

“Pressure release” means the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device.

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

“Primer” means any coating applied prior to the application of a topcoat or color coat for the purposes of surface preparation, corrosion resistance, adhesion, and color uniformity.

“Process unit shutdown” means a work practice or operational procedure that stops production from a process unit or part of a process unit. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a process unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping production are not process unit shutdowns.

“Reid vapor pressure” means the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids, except liquified petroleum gases, as determined by ASTM D323-82.

“Repaired” means that equipment is adjusted, or otherwise altered, in order to eliminate a leak as indicated by one of the following: an instrument reading of 10,000 ppm or greater, indication of liquids dripping, or indication by a sensor that a seal or barrier fluid system has failed.

“Repair coating” means a coating used to re-coat portions of a previously coated product which has sustained mechanical damage to the coating following normal coating operations.

“Roll coating” means the application of a coating material to a moving substrate by means of hard rubber, elastomeric, or metal rolls.

“Rotogravure coating” means the application of a coating material to a substrate by means of a roll coating technique in which the pattern to be applied is recessed relative to the non-image area, and the coating material is picked up in these recessed areas and is transferred to the substrate.

“Safety-indicating coatings” means a coating which changes physical characteristics, such as color, to indicate unsafe conditions.

“Shutdown” means the cessation of operation of a facility or of its emission control or emission monitoring equipment.

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

“Solid-film lubricant” means a very thin coating consisting of a binder system containing as its chief pigment material one or more of molybdenum disulfide, graphite, polytetrafluoroethylene (PTFE) or other solids that act as a dry lubricant between faying surfaces.

“Source” means any building, structure, equipment (excluding mobile equipment temporarily in place), or installation that directly or indirectly releases or discharges, or has the potential to release or discharge, VOCs into the atmosphere.

“Stage I Vapor Recovery System” means the control of gasoline vapor from any delivery vessel into any stationary storage vessel, where the vapor displaced by the liquid gasoline is returned to the delivery vessel and transported to the refinery.

“Stage II Vapor Recovery System” means a system that controls the emissions of gasoline vapor at the vehicle fill-pipe, where the vapor is captured and returned to a vapor-tight storage tank, or is destroyed; which achieves an overall control efficiency of at least 95%.

“Standard conditions” means a temperature of 20°C (68°F) and pressure of 760 mm Hg (29.92 in. Hg).

“Startup” means the setting in operation of a source or of its emission control or emission monitoring equipment.

“Stencil coating” means a coating which is rolled or brushed onto a template or stamp in order to add identifying letters, symbols or numbers.

“Storage Vessel” means each tank, reservoir or container used for the storage of Volatile Organic Liquids, but does not include:

1. Frames, housing, auxiliary supports or other components that are not directly involved in the containment of liquids or vapors; or
2. Subsurface caverns or porous rock reservoirs.

“Submerged fill” means the method of filling a delivery vessel or storage vessel where product enters within 150 millimeters (mm) (5.9 inches [in.]) of the bottom of the delivery or storage vessel. Bottom filling of delivery and storage vessels is included in this definition.

“Substrate” means the surface onto which a coating is applied or into which a coating is impregnated.

“Throughput” means the amount of gasoline dispensed at a gasoline dispensing facility during a calendar month after November 15, 1990.

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

“Transfer efficiency” means the ratio of the amount of coating solids adhering to the object being coated to the total amount of coating solids used in the application process, expressed as a percentage.

“Two-component paint” means a coating that is manufactured in two components that are mixed shortly before use. When mixed, the two liquids rapidly crosslink to form a solid composition.

“Vacuum-metalizing coating” means the undercoat applied to the substrate on which the metal is deposited or the overcoat applied directly to the metal film. Vacuum metalizing/physical vapor

deposition (PVD) is the process whereby metal is vaporized and deposited on a substrate in a vacuum chamber.

"Vapor collection system" means all piping, seals, hoses, connections, pressure-vacuum vents, and other equipment between the gasoline tank truck and the vapor processing unit or the storage tanks and vapor holder.

"Vapor control system" means a system that limits or prevents release to the atmosphere of organic compounds in the vapors displaced from a tank during the transfer of gasoline.

"Vapor-mounted seal" means a primary seal mounted so there is an annular vapor space underneath the seal. The annular vapor space is bounded by the bottom of the primary seal, the tank wall, the liquid surface and the floating roof.

"Vapor recovery system" means a vapor-gathering system capable of collecting VOC vapors and gases emitted during the operation of any transfer, storage, or process equipment.

"Vapor-tight" means equipment that allows no loss of vapors. Compliance with vapor-tight requirements can be determined by checking to ensure that the concentration at a potential leak source is not equal to or greater than 100% of the LEL when measured with a combustible gas detector, calibrated with propane, at a distance of 2.54 centimeters (cm) (1 inch) from the source.

"Vapor-tight gasoline tank truck" means a gasoline tank truck that has demonstrated within the 12 preceding months that its product delivery tank will sustain a pressure change of not more than 75 mm (3.0 in.) of water within five minutes (min) after it is pressurized to 450 mm (18 in.) of water; or when evacuated to 150 mm (5.9 in.) of water, the same tank will sustain a pressure change of not more than 75 mm (3.0 in.) of water within 5 min. This capability is to be demonstrated using the test procedures specified in Method 27 of Appendix A of 40 CFR, Part 60 (July 1, 1992).

"Volatile Organic Liquid" (VOL) means any organic liquid which can emit any Volatile Organic Compound into the atmosphere (see definition of "Volatile Organic Compound" of this regulation).

"Volatile Organic Compound" (VOC) means any carbon-containing compound excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates and ammonium carbonate, which participates in atmospheric photochemical reactions. This includes any organic compounds other than those defined as "Exempt Compounds", which have been determined to have negligible photochemical reactivity (see definition of "Exempt Compounds" of this regulation). In addition to the procedures for requesting a satisfactory compliance demonstration, where the Department proposes to allow the use of a test method for excluding negligibly reactive compounds that is different from or not specified in the approved SIP, such change shall be submitted to the Environmental Protection Agency (U.S. EPA) for approval as part of a SIP Revision.

"Web coating line" means all of the coating applicator or applicators, drying area or areas, or oven or ovens, located between an unwind station and a rewind station, that are used to apply coating onto a continuous strip of substrate (the web). A web coating line need not have a drying oven.