
40 C.F.R. § 52.741

Control strategy: Ozone control measures for Cook, DuPage, Kane, Lake, McHenry and Will Counties.

(a) *General Provisions*—(1) *Abbreviations and conversion factors.* (i) The following abbreviations are used in § 52.741:

ASTM American Society for Testing and Materials

bbl barrels (42 gallons)

°C degrees Celsius or centigrade

cm centimeters

cu in. cubic inches

°F degrees Fahrenheit

FIP Federal implementation plan

ft feet

ft square feet

g grams

gpm gallons per minute

g/mole grams per mole

gal gallons

hr hours

in inches

K degrees Kelvin

kcal kilocalories

kg kilograms

kg/hr kilograms per hour

kPa kilopascals; one thousand newtons per square meter

l liters
l/sec liters per second
lbs pounds
lbs/hr pounds per hour
lbs/gal pounds per gallon
LEL lower explosive limit
m meters
m square meters
m cubic meters
mg milligrams
Mg Megagrams, metric tons or tonnes
ml milliliters
min minutes
MJ megajoules
mm Hg millimeters of mercury
ppm parts per million
ppmv parts per million by volume
psi pounds per square inch
psia pounds per square inch absolute
psig pounds per square inch gauge
scf standard cubic feet
scm standard cubic meters
sec seconds
SIP State implementation plan
sq cm square centimeters
sq in square inches
USEPA United States Environmental Protection Agency
VOC volatile organic compounds

VOL volatile organic liquids

VOM volatile organic materials

(ii) The following conversion factors are used in § 52.741.

English	Metric
1 gal	3.785 l.
1,000 gal	3,785 l or 3.785 m ³ .
1 psia	6.897 kPa (51.71 mm Hg).
2.205 lbs	1 kg.
1 bbl	159.0 l.
1 cu in	16.39 ml.
1 lb/gal	119,800 mg/l.
1 ton	0.907 Mg.

(2) *Applicability.* (i) Any source that received a stay, as indicated in § 218.103(a)(2), remains subject to the stay if still in effect, or (if the stay is no longer in effect) the federally-promulgated or federally-approved rule applicable to such source.

(ii)

(A) Effective November 20, 1996 Illinois Administrative Code Title 35: Environmental Protection, Subtitle B: Air pollution, Chapter I: Pollution Control Board, Subchapter c: Emissions Standards and Limitations for Stationary Sources, Part 211: Definitions and General Provisions, and Part 218: Organic Material Emission Standards and Limitations for the Chicago Area replace the requirements of 40 CFR 52.741 Control strategy: Ozone control measures for Cook, DuPage, Kane, Lake, McHenry and Will County as the federally enforceable control measures in these counties for the major non-Control Technique Guideline (CTG) sources in the Chicago area, previously subject to paragraph u, v, w, or x because of the applicability criteria in these paragraphs.

(B) In accordance with § 218.101(b), for the major non-CTG sources subject to paragraphs u, v, w, or x because of the applicability criteria of those paragraphs, the requirements of paragraphs u, v, w, and x, and the recordkeeping requirements in paragraph y and any related parts of § 52.741 necessary to implement these paragraphs (including, but not limited to, those paragraphs containing test methods and definitions), shall remain in effect and are enforceable after November 20, 1996 for the period from July 30, 1990 until November 20, 1996.

(iii)

(A) Except as provided in paragraphs (a)(2) (i) and (ii) of this section, effective October 11, 1994, Illinois Administrative Code Title 35: Environmental Protection, Subtitle B: Air pollution, Chapter I: Pollution Control Board, Subchapter c: Emissions Standards and Limitations for Stationary Sources, Part 211: Definitions and General Provisions, and Part 218: Organic Material Emission Standards and Limitations for the Chicago Area replace the requirements of this § 52.741 Control strategy: Ozone control measures for Cook, DuPage, Kane,

Lake, McHenry and Will County as the federally enforceable control measures in these counties.

(B) In accordance with § 218.101(b), the requirements of § 52.741 shall remain in effect and are enforceable after October 11, 1994, for the period from July 30, 1990, to October 11, 1994.

(3) *Definitions.* The following terms are defined for the purpose of § 52.741.

Note:

The Federal definitions supersede the State definitions for these terms, which were previously approved by USEPA as part of the SIP. The federally approved definitions for all other terms remain in effect and applicable to these Federal rules.

Accelacota means a pharmaceutical coating operation which consists of a horizontally rotating perforated drum in which tablets are placed, a coating is applied by spraying, and the coating is dried by the flow of air across the drum through the perforations.

Accumulator means the reservoir of a condensing unit receiving the condensate from a surface condenser.

Actual emissions means the actual quantity of VOM emissions from an emission source during a particular time period.

Adhesive means any substance or mixture of substances intended to serve as a joining compound.

Administrator means the Administrator of the USEPA or that person's designee.

Afterburner means a control device in which materials in gaseous effluent are combusted.

Air contaminant means any solid, liquid, or gaseous matter, any odor, or any form of energy, that is capable of being released into the atmosphere from an emission source.

Air dried coatings means any coatings that dry by use of air or forced air at temperatures up to 363.15 K (194 °F).

Air pollution means the presence in the atmosphere of one or more air contaminants in sufficient quantities and of such characteristics and duration as to be injurious to human, plant, or animal life, to health, or to property, or to unreasonably interfere with the enjoyment of life or property.

Air pollution control equipment means any equipment or facility of a type intended to eliminate, prevent, reduce or control the emission of specified air contaminants to the atmosphere.

Air suspension coater/dryer means a pharmaceutical coating operation which consists of vertical chambers in which tablets or particles are placed, and a coating is applied and then dried while the tablets or particles are kept in a fluidized state by the passage of air upward through the chambers.

Air-assisted airless spray means a spray coating method which combines compressed air with hydraulic pressure to atomize the coating material into finer droplets than is achieved with pure airless spray. Lower hydraulic pressure is used than with airless spray.

Airless spray means a spray coating method in which the coating is atomized by forcing it through a small opening at high pressure. The coating liquid is not mixed with air before exiting from the nozzle.

Allowable emissions means the quantity of VOM emissions during a particular time period from a stationary source calculated using the maximum rated capacity of the source (unless restricted by federally enforceable

limitations on operating rate, hours of operation, or both) and the most stringent of:

(A) The applicable standards in 40 CFR parts 60 and 61:

(B) The applicable implementation plan; or

(C) A federally enforceable permit.

Ambient air quality standards means those standards designed to protect the public health and welfare codified in 40 CFR part 50 and promulgated from time to time by the USEPA pursuant to authority contained in Section 108 of the Clean Air Act, 42 U.S.C. 7401 *et seq.*, as amended from time to time.

Applicator means a device used in a coating line to apply coating.

As applied means the exact formulation of a coating during application on or impregnation into a substrate.

Asphalt means the dark-brown to black cementitious material (solid, semisolid, or liquid in consistency) of which the main constituents are bitumens which occur naturally or as a residue of petroleum refining.

Automobile means a motor vehicle capable of carrying no more than 12 passengers.

Automobile or light-duty truck assembly plant means a facility where parts are assembled or finished for eventual inclusion into a finished automobile or light-duty truck ready for sale to vehicle dealers, but not including customizers, body shops, and other repainters.

Automobile or light-duty truck refinishing means the repainting of used automobiles and light-duty trucks.

Baked coatings means any coating which is cured or dried in an oven where the oven air temperature exceeds 90 °C (194 °F).

Binders means organic materials and resins which do not contain VOM's.

Bituminous coatings means black or brownish coating materials which are soluble in carbon disulfide, which consist mainly of hydrocarbons, and which are obtained from natural deposits or as residues from the distillation of crude oils or of low grades of coal.

Brush or wipe coating means a manual method of applying a coating using a brush, cloth, or similar object.

Bulk gasoline plant means a gasoline storage and distribution facility with an average throughput of 76,000 l (20,000 gal) or less on a 30-day rolling average that distributes gasoline to gasoline dispensing facilities.

Can means any metal container, with or without a top, cover, spout or handles, into which solid or liquid materials are packaged.

Can coating means any coating applied on a single walled container that is manufactured from metal sheets thinner than 29 gauge (0.0141 in.).

Can coating facility means a facility that includes one or more can coating line(s).

Can coating line means a coating line in which any protective, decorative, or functional coating is applied onto the surface of cans or can components.

Capture means the containment or recovery of emissions from a process for direction into a duct which may be exhausted through a stack or sent to a control device. The overall abatement of emissions from a process with an

add-on control device is a function both of the capture efficiency and of the control device.

Capture device means a hood, enclosed room floor sweep or other means of collecting solvent or other pollutants into a duct. The pollutant can then be directed to a pollution control device such as an afterburner or carbon adsorber. Sometimes the term is used loosely to include the control device.

Capture efficiency means the fraction of all VOM generated by a process that are directed to an abatement or recovery device.

Capture system means all equipment (including, but not limited to, hoods, ducts, fans, ovens, dryers, etc.) used to contain, collect and transport an air pollutant to a control device.

Clean Air Act means the Clean Air Act of 1963, as amended, including the Clean Air Act Amendments of 1977, (42 U.S.C. 7401 *et seq.*).

Clear coating means coatings that lack color and opacity or are transparent using the undercoat as a reflectant base or undertone color.

Clear topcoat means the final coating which contains binders, but not opaque pigments, and is specifically formulated to form a transparent or translucent solid protective film.

Closed vent system means a system that is not open to the atmosphere and is composed of piping, connections, and, if necessary, flow inducing devices that transport gas or vapor from an emission source to a control device.

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, sealers, adhesives, thinners, diluents, and inks.

Coating applicator means equipment used to apply a coating.

Coating line means an operation consisting of a series of one or more coating applicators and any associated flash-off areas, drying areas, and ovens wherein a surface coating is applied, dried, or cured. (It is not necessary for an operation to have an oven, or flash-off area, or drying area to be included in this definition.)

Coating plant means any plant that contains one or more coating line(s).

Coil means any flat metal sheet or strip that is rolled or wound in concentric rings.

Coil coating means any coating applied on any flat metal sheet or strip that comes in rolls or coils.

Coil coating facility means a facility that includes one or more coil coating line(s).

Coil coating line means a coating line in which any protective, decorative or functional coating is applied onto the surface of flat metal sheets, strips, rolls, or coils for industrial or commercial use.

Cold cleaning means the process of cleaning and removing soils from surfaces by spraying, brushing, flushing, or immersion while maintaining the organic solvent below its boiling point. Wipe cleaning is not included in this definition.

Component means, with respect to synthetic organic chemical and polymer manufacturing equipment, and petroleum refining and related industries, any piece of equipment which has the potential to leak VOM including, but not limited to, pump seals, compressor seals, seal oil degassing vents, pipeline valves, pressure relief devices, process drains, and open ended pipes. This definition excludes valves which are not externally regulated, flanges,

and equipment in heavy liquid service. For purposes of paragraph (i) of this section, this definition also excludes bleed ports of gear pumps in polymer service.

Concrete curing compounds means any coating applied to freshly poured concrete to retard the evaporation of water.

Condensate means volatile organic liquid separated from its associated gases, which condenses due to changes in the temperature or pressure and remains liquid at standard conditions.

Continuous process means, with respect to polystyrene resin, a method of manufacture in which the styrene raw material is delivered on a continuous basis to the reactor in which the styrene is polymerized to polystyrene.

Control device means equipment (such as an afterburner or adsorber) used to remove or prevent the emission of air pollutants from a contaminated exhaust stream.

Control device efficiency means the ratio of pollution prevented by a control device and the pollution introduced to the control device, expressed as a percentage.

Conveyorized degreasing means the continuous process of cleaning and removing soils from surfaces utilizing either cold or vaporized solvents.

Crude oil means a naturally occurring mixture which consists of hydrocarbons and sulfur, nitrogen, or oxygen derivatives of hydrocarbons and which is a liquid at standard conditions.

Crude oil gathering means the transportation of crude oil or condensate after custody transfer between a production facility and a reception point.

Custody transfer means the transfer of produced petroleum and/or condensate after processing and/or treating in the producing operations, from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.

Daily-weighted average VOM content means the average VOM content of two or more coatings as applied on a coating line during any day, taking into account the fraction of total coating volume that each coating represents, as calculated with the following equation:

$$VOM_w = \left[\frac{\sum_{i=1}^n V_i C_i}{V_T} \right]$$

Where:

VOM_w = The average VOM content of two or more coatings as applied each day on a coating line in units of kg VOM/l (lbs VOM/gal) of coating (minus water and any compounds which are specifically exempted from the definition of VOM), n = The number of different coatings as applied each day on a coating line, V_i = The volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on a coating line in units of l (gal). C_i = The VOM content of each coating as applied each day on a coating line in units of kg VOM/l (lbs VOM/gal) of coating (minus water and any compounds which are specifically exempted from the definition of VOM), and V_T = The total volume of all coatings (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on a coating line

in units of l (gal).

Day means the consecutive 24 hours beginning at 12 a.m. (midnight) local time.

Degreaser means any equipment or system used in solvent cleaning.

Delivery vessel means any tank truck or trailer equipped with a storage tank that is used for the transport of gasoline to a stationary storage tank at a gasoline dispensing facility, bulk gasoline plant, or bulk gasoline terminal.

Dip coating means a method of applying coatings in which the part is submerged in a tank filled with the coating.

Drum means any cylindrical metal shipping container of 13- to 110-gallon capacity.

Electrostatic bell or disc spray means an electrostatic spray coating method in which a rapidly-spinning bell- or disc-shaped applicator is used to create a fine mist and apply the coating with high transfer efficiency.

Electrostatic spray means a spray coating method in which opposite electrical charges are applied to the substrate and the coating. The coating is attracted to the object due to the electrostatic potential between them.

Emission source and source mean any facility from which VOM is emitted or capable of being emitted into the atmosphere.

Enamel means a coating that cures by chemical cross-linking of its base resin. Enamels can be distinguished from lacquers because enamels are not readily resolvable in their original solvent.

Enclose means to cover any VOL surface that is exposed to the atmosphere.

End sealing compound coat means a compound applied to can ends which functions as a gasket when the end is assembled onto the can.

Excessive release means a discharge of more than 295 g (0.65 lbs) of mercaptans and/or hydrogen sulfide into the atmosphere in any 5-minute period.

Exterior base coat means a coating applied to the exterior of a can body, or flat sheet to provide protection to the metal or to provide background for any lithographic or printing operation.

Exterior end coat means a coating applied to the exterior end of a can to provide protection to the metal.

External-floating roof means a cover over an open top storage tank consisting of a double deck or pontoon single deck which 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 environmental conditions means exposure to any or all of the following: ambient weather conditions; temperatures consistently above 95 °C (203 °F); detergents; abrasive and scouring agents; solvents; or corrosive atmospheres.

Extreme performance coating means any coating which during intended use is exposed to extreme environmental conditions.

Fabric coating means any coating applied on textile fabric. Fabric coating includes the application of coatings by impregnation.

Fabric coating facility means a facility that includes one or more fabric coating lines.

Fabric coating line means a coating line in which any protective, decorative, or functional coating or reinforcing material is applied on or impregnated into a textile fabric.

Federally enforceable means all limitations and conditions which are enforceable by the Administrator including those requirements developed pursuant to 40 CFR parts 60 and 61; requirements within any applicable implementation plan; and any permit requirements established pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR part 51 subpart I and 40 CFR 51.166.

Final repair coat means the repainting of any topcoat which is damaged during vehicle assembly.

Firebox means the chamber or compartment of a boiler or furnace in which materials are burned, but not the combustion chamber or afterburner of an incinerator.

Fixed-roof tank means a cylindrical shell with a permanently affixed roof.

Flexographic printing means the application of words, designs, and pictures to a substrate by means of a roll printing technique in which the pattern to be applied is raised above the printing roll and the image carrier is made of elastomeric materials.

Flexographic printing line means a printing line in which each roll printer uses a roll with raised areas for applying an image such as words, designs, or pictures to a substrate. The image carrier on the roll is made of rubber or other elastome

Floating roof means a roof on a stationary tank, reservoir, or other container which moves vertically upon change in volume of the stored material.

Fountain solution means the solution which is applied to the image plate to maintain hydrophilic properties of the non-image areas.

Fuel combustion emission source means any furnace, boiler, or similar equipment used for the primary purpose of producing heat or power by indirect heat transfer.

Fuel gas system means a system for collection of refinery fuel gas including, but not limited to, piping for collecting tail gas from various process units, mixing drums and controls, and distribution piping.

Gas/gas method means either of two methods for determining capture which rely only on gas phase measurements. The first method requires construction of a temporary total enclosure (TTE) to ensure that all would-be fugitive emissions are measured. The second method uses the building or room which houses the facility as an enclosure. The second method requires that all other VOM sources within the room be shut down while the test is performed, but all fans and blowers within the room must be operated according to normal procedures.

Gas service means that the component contains process fluid that is in the gaseous state at operating conditions.

Gasoline means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kPa or greater which is used as a fuel for internal combustion engines.

Gasoline dispensing facility means any site where gasoline is transferred from a stationary storage tank to a motor vehicle gasoline tank used to provide fuel to the engine of that motor vehicle.

Gross vehicle weight means the manufacturer's gross weight rating for the individual vehicle.

Gross vehicle weight rating means the value specified by the manufacturer as the maximum design loaded weight of a single vehicle.

Heated airless spray means an airless spray coating method in which the coating is heated just prior to application.

Heatset means a class of web-offset lithography which requires a heated dryer to solidify the printing inks.

Heatset-web-offset lithographic printing line means a lithographic printing line in which a blanket cylinder is used to transfer ink from a plate cylinder to a substrate continuously fed from a roll or an extension process and an oven is used to solidify the printing inks.

Heavy liquid means liquid with a true vapor pressure of less than 0.3 kPa (0.04 psi) at 294.3 K (70 °F) established in a standard reference text or as determined by ASTM method D2879-86 (incorporated by reference as specified in 40 CFR 52.742); or which has 0.1 Reid Vapor Pressure as determined by ASTM method D323-82 (incorporated by reference as specified in 40 CFR 52.742); or which when distilled requires a temperature of 421.95 K (300 °F) or greater to recover 10 percent of the liquid as determined by ASTM method D86-82 (incorporated by reference as specified in 40 CFR 52.742).

Heavy off-highway vehicle products means, for the purpose of paragraph (e) of this section, heavy construction, mining, farming, or material handling equipment; heavy industrial engines; diesel-electric locomotives and associated power generation equipment; and the components of such equipment or engines.

Heavy off-highway vehicle products coating facility means a facility that includes one or more heavy off-highway vehicle products coating line(s).

Heavy off-highway vehicle products coating line means a coating line in which any protective, decorative, or functional coating is applied onto the surface of heavy off-highway vehicle products.

High temperature aluminum coating means a coating that is certified to withstand a temperature of 537.8 °C (1000 °F) for 24 hours.

Hood means a partial enclosure or canopy for capturing and exhausting, by means of a draft, the organic vapors or other fumes rising from a coating process or other source.

Hood capture efficiency means the emissions from a process which are captured by the hood and directed into a control device, expressed as a percentage of all emissions.

Hot well means the reservoir of a condensing unit receiving the condensate from a barometric condenser.

Hour means a block period of 60 minutes (e.g., 1 a.m. to 2 a.m.).

In vacuum service means, for the purpose of paragraph (i) of this section, equipment which is operating at an internal pressure that is at least 5 kPa (0.73 psia) below ambient pressure.

In-process tank means a container used for mixing, blending, heating, reacting, holding, crystallizing, evaporating or cleaning operations in the manufacture of pharmaceuticals.

Incinerator means a combustion apparatus in which refuse is burned.

Indirect heat transfer means transfer of heat in such a way that the source of heat does not come into direct contact with process materials.

Ink means a coating used in printing, impressing, or transferring an image onto a substrate.

Interior body spray coat means a coating applied by spray to the interior of a can body.

Internal-floating roof means a cover or roof in a fixed-roof tank which 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.

Lacquers means any clear wood finishes formulated with nitrocellulose or synthetic resins to dry by evaporation without chemical reaction, including clear lacquer sanding sealers.

Large appliance means any residential and commercial washers, dryers, ranges, refrigerators, freezers, water heaters, dish washers, trash compactors, air conditioners, and other similar products.

Large appliance coating means any coating applied to the component metal parts (including, but not limited to, doors, cases, lids, panels, and interior support parts) of residential and commercial washers, dryers, ranges, refrigerators, freezers, water heaters, dish washers, trash compactors, air conditioners, and other similar products.

Large appliance coating facility means a facility that includes one or more large appliance coating line(s).

Large appliance coating line means a coating line in which any protective, decorative, or functional coating is applied onto the surface of large appliances.

Light liquid means VOM in the liquid state which is not defined as heavy liquid.

Light-duty truck means any motor vehicle rated at 3,850 kg gross vehicle weight or less, designed mainly to transport property.

Liquid/gas method means either of two methods for determining capture which require both gas phase and liquid phase measurements and analysis. The first method requires construction of a TTE. The second method uses the building or room which houses the facility as an enclosure. The second method requires that all other VOM sources within the room be shut down while the test is performed, but all fans and blowers within the room must be operated according to normal procedures.

Liquid service means that the equipment or component contains process fluid that is in a liquid state at operating conditions.

Lithographic printing line means a printing line, except that the substrate is not necessarily fed from an unwinding roll, in which each roll printer uses a roll where both the image and non-image areas are essentially in the same plane (planographic).

Magnet wire means aluminum or copper wire formed into an electromagnetic coil.

Magnet wire coating means any coating or electrically insulating varnish or enamel applied to magnet wire.

Magnet wire coating facility means a facility that includes one or more magnet wire coating line(s).

Magnet wire coating line means a coating line in which any protective, decorative, or functional coating is applied onto the surface of a magnet wire.

Malfunction means any sudden and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused entirely or in part by poor

maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

Manufacturing process means a method whereby a process emission source or series of process emission sources is used to convert raw materials, feed stocks, subassemblies, or other components into a product, either for sale or for use as a component in a subsequent manufacturing process.

Maximum theoretical emissions means the quantity of volatile organic material emissions that theoretically could be emitted by a stationary source before add-on controls based on the design capacity or maximum production capacity of the source and 8760 hours per year. The design capacity or maximum production capacity includes use of coating(s) or ink(s) with the highest volatile organic material content actually used in practice by the source.

Metal furniture means a furniture piece including, but not limited to, tables, chairs, waste baskets, beds, desks, lockers, benches, shelving, file cabinets, lamps, and room dividers.

Metal furniture coating means any non-adhesive coating applied to any furniture piece made of metal or any metal part which is or will be assembled with other metal, wood, fabric, plastic or glass parts to form a furniture piece including, but not limited to, tables, chairs, waste baskets, beds, desks, lockers, benches, shelving, file cabinets, lamps, and room dividers. This definition shall not apply to any coating line coating miscellaneous metal parts or products.

Metal furniture coating facility means a facility that includes one or more metal furniture coating line(s).

Metal furniture coating line means a coating line in which any protective, decorative, or functional coating is applied onto the surface of metal furniture.

Metallic shoe-type seal means a primary or secondary seal constructed of metal sheets (shoes) which are joined together to form a ring, springs, or levers which attach the shoes to the floating roof and hold the shoes against the tank wall, and a coated fabric which is suspended from the shoes to the floating roof.

Miscellaneous fabricated product manufacturing process means:

(A) A manufacturing process involving one or more of the following applications, including any drying and curing of formulations, and capable of emitting VOM:

- (1) Adhesives to fabricate or assemble components or products.
- (2) Asphalt solutions to paper or fiberboard.
- (3) Asphalt to paper or felt.
- (4) Coatings or dye to leather.
- (5) Coatings to plastic.
- (6) Coatings to rubber or glass.
- (7) Disinfectant material to manufactured items.
- (8) Plastic foam scrap or “fluff” from the manufacture of foam containers and packaging material to form resin pallets.

(9) Resin solutions to fiber substances.

(10) Viscose solutions for food casings.

(B) The storage and handling of formulations associated with the process described above, and the use and handling of organic liquids and other substances for clean-up operations associated with the process described in this definition.

Miscellaneous formulation manufacturing process means:

(A) A manufacturing process which compounds one or more of the following and is capable of emitting VOM:

(1) Adhesives.

(2) Asphalt solutions.

(3) Caulks, sealants, or waterproofing agents.

(4) Coatings, other than paint and ink.

(5) Concrete curing compounds.

(6) Dyes.

(7) Friction materials and compounds.

(8) Resin solutions.

(9) Rubber solutions.

(10) Viscose solutions.

(B) The storage and handling of formulations associated with the process described above, and the use and handling of organic liquids and other substances for clean-up operations associated with the process described in this definition.

Miscellaneous metal parts or products means any metal part or metal product, even if attached to or combined with a nonmetal part or product, except cans, coils, metal furniture, large appliances, magnet wire, automobiles, ships, and airplane bodies.

Miscellaneous metal parts and products coating means any coating applied to any metal part or metal product, even if attached to or combined with a nonmetal part or product, except cans, coils, metal furniture, large appliances, and magnet wire. Prime coat, prime surfacer coat, topcoat, and final repair coat for automobiles and light-duty trucks are not miscellaneous metal parts and products coatings. However, underbody anti-chip (*e.g.*, underbody plastisol) automobile, and light-duty truck coatings are miscellaneous metal parts and products coatings. Also, automobile or light-duty truck refinishing coatings, coatings applied to the exterior of marine vessels, coatings applied to the exterior of airplanes, and the customized topcoating of automobiles and trucks if production is less than 35 vehicles per day are not miscellaneous metal parts and products coatings.

Miscellaneous metal parts or products coating facility means a facility that includes one or more miscellaneous metal parts or products coating lines.

Miscellaneous metal parts or products coating line means a coating line in which any protective, decorative, or

functional coating is applied onto the surface of miscellaneous metal parts or products.

Miscellaneous organic chemical manufacturing process means:

(A) A manufacturing process which produces by chemical reaction, one or more of the following organic compounds or mixtures of organic compounds and which is capable of emitting VOM:

- (1) Chemicals listed in appendix A of this section.
- (2) Chlorinated and sulfonated compounds.
- (3) Cosmetic, detergent, soap, or surfactant intermediaries or specialties and products.
- (4) Disinfectants.
- (5) Food additives.
- (6) Oil and petroleum product additives.
- (7) Plasticizers.
- (8) Resins or polymers.
- (9) Rubber additives.
- (10) Sweeteners.
- (11) Varnishes.

(B) The storage and handling of formulations associated with the process described above and the use and handling of organic liquids and other substances for clean-up operations associated with the process described in this definition.

Monitor means to measure and record.

Multiple package coating means a coating made from more than one different ingredient which must be mixed prior to using and has a limited pot life due to the chemical reaction which occurs upon mixing.

Offset means, with respect to printing and publishing operations, use of a blanket cylinder to transfer ink from the plate cylinder to the surface to be printed.

Opaque stains means all stains that are not semi-transparent stains.

Open top vapor depressing means the batch process of cleaning and removing soils from surfaces by condensing hot solvent vapor on the colder metal parts.

Open-ended valve means any valve, except pressure relief devices, having one side of the valve in contact with process fluid and one side open to the atmosphere, either directly or through open piping.

Organic compound means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.

Organic material means any chemical compound of carbon including diluents and thinners which are liquids at standard conditions and which are used as solvers, viscosity reducers, or cleaning agents, but excluding

methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbonic acid, metallic carbide, metallic carbonates, and ammonium carbonate.

Organic vapor means the gaseous phase of an organic material or a mixture of organic materials present in the atmosphere.

Oven means a chamber within which heat is used for one or more of the following purposes: Dry, bake, cure, or polymerize a coating or ink.

Overall control means the product of the capture efficiency and the control device efficiency.

Overvarnish means a transparent coating applied directly over ink or coating.

Owner or operator means any person who owns, operates, leases, controls, or supervises an emission source or air pollution control equipment.

Packaging rotogravure printing means rotogravure printing upon paper, paper board, metal foil, plastic film, and other substrates, which are, in subsequent operations, formed into packaging products or labels for articles to be sold.

Packaging rotogravure printing line means a rotogravure printing line in which surface coatings are applied to paper, paperboard, foil, film, or other substrates which are to be used to produce containers, packaging products, or labels for articles.

Pail means any cylindrical metal shipping container of 1- to 12-gallon capacity and constructed of 29-gauge and heavier metal.

Paint manufacturing plant means a plant that mixes, blends, or compounds enamels, lacquers, sealers, shellacs, stains, varnishes, or pigmented surface coatings.

Paper coating means any coating applied on paper, plastic film, or metallic foil to make certain products, including (but not limited to) adhesive tapes and labels, book covers, post cards, office copier paper, drafting paper, or pressure sensitive tapes. Paper coating includes the application of coatings by impregnation and/or saturation.

Paper coating facility means a facility that includes one or more paper coating lines.

Paper coating line means a coating line in which any protective, decorative, or functional coating is applied on, saturated into, or impregnated into paper, plastic film, or metallic foil to make certain products, including (but not limited to) adhesive tapes and labels, book covers, post cards, office copier paper, drafting paper, and pressure sensitive tapes.

Parts per million (volume) means a volume/volume ratio which expresses the volumetric concentration of gaseous air contaminant in a million unit volume of gas.

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

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

Petroleum refinery means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of petroleum, or through redistillation, cracking, or

reforming of unfinished petroleum derivatives.

Pharmaceutical means any compound or mixture, other than food, used in the prevention, diagnosis, alleviation, treatment, or cure of disease in man and animal.

Pharmaceutical coating operation means a device in which a coating is applied to a pharmaceutical, including air drying or curing of the coating.

Pigmented coatings means opaque coatings containing binders and colored pigments which are formulated to conceal the wood surface either as an undercoat or topcoat.

Plant means all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control), except the activities of any marine vessel. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same "Major Group" (i.e., which have the same two-digit code) as described in the "Standard Industrial Classification Manual, 1987" (incorporated by reference as specified in 40 CFR 52.742).

Plasticizers means a substance added to a polymer composition to soften and add flexibility to the product.

Prime coat means the first of two or more coatings applied to a surface.

Prime surfacer coat means a coating used to touch up areas on the surface of automobile or light-duty truck bodies not adequately covered by the prime coat before application of the top coat. The prime surfacer coat is applied between the prime coat and topcoat. An anti-chip coating applied to main body parts (e.g., rocker panels, bottom of doors and fenders, and leading edge of roof) is a prime surfacer coat.

Primers means any coatings formulated and applied to substrates to provide a firm bond between the substrate and subsequent coats.

Printing means the application of words, designs, and pictures to a substrate using ink.

Printing line means an operation consisting of a series of one or more roll printers and any associated roll coaters, drying areas, and ovens wherein one or more coatings are applied, dried, and/or cured.

Process means any stationary emission source other than a fuel combustion emission source or an incinerator.

Production equipment exhaust system means a system for collecting and directing into the atmosphere emissions of volatile organic material from reactors, centrifuges, and other process emission sources.

Publication rotogravure printing line means a rotogravure printing line in which coatings are applied to paper which is subsequently formed into books, magazines, catalogues, brochures, directories, newspaper supplements, or other types of printed material.

Reactor means a vat, vessel, or other device in which chemical reactions take place.

Refiner means any person who owns, leases operates, controls, or supervises a refinery.

Refinery unit, process unit or unit means a set of components which are a part of a basic process operation such as distillation, hydrotreating, cracking, or reforming of hydrocarbons.

Refrigerated condenser means a surface condenser in which the coolant supplied to the condenser has been cooled by a mechanical device, other than by a cooling tower or evaporative spray cooling, such as refrigeration unit or

steam chiller unit.

Repair coatings means coatings used to correct imperfections or damage to furniture surface.

Repaired means, for the purpose of paragraph (i) of this section, that equipment component has been adjusted, or otherwise altered, to eliminate a leak.

Roll coater means an apparatus in which a uniform layer of coating is applied by means of one or more rolls across the entire width of a moving substrate.

Roll printer means an apparatus used in the application of words, designs, or pictures to a substrate, usually by means of one or more rolls each with only partial coverage.

Roll printing means the application of words, designs, and pictures to a substrate usually by means of a series of hard rubber or metal rolls each with only partial coverage.

Roller coating means a method of applying a coating to a sheet or strip in which the coating is transferred by a roller or series of rollers.

Rotogravure printing means the application of words, designs, and pictures to a substrate by means of a roll printing technique in which the pattern to be applied is recessed relative to the non-image area.

Rotogravure printing line means a printing line in which each roll printer uses a roll with recessed areas for applying an image to a substrate.

Safety relief valve means a valve which is normally closed and which is designed to open in order to relieve excessive pressures within a vessel or pipe.

Sanding sealers means any coatings formulated for and applied to bare wood for sanding and to seal the wood for subsequent application of varnish. To be considered a sanding sealer a coating must be clearly labelled as such.

Sealer means a coating containing binders which seals wood prior to the application of the subsequent coatings.

Semi-transparent stains means stains containing dyes or semi-transparent pigments which are formulated to enhance wood grain and change the color of the surface but not to conceal the surface, including, but not limited to, sap stain, toner, non-grain raising stains, pad stain, or spatter stain.

Set of safety relief valves means one or more safety relief valves designed to open in order to relieve excessive pressures in the same vessel or pipe.

Sheet basecoat means a coating applied to metal when the metal is in sheet form to serve as either the exterior or interior of a can for either two-piece or three-piece cans.

Side-seam spray coat means a coating applied to the seam of a three-piece can.

Single coat means one coating application applied to a metal surface.

Solvent means a liquid substance that is used to dissolve or dilute another substance.

Solvent cleaning means the process of cleaning soils from surfaces by cold cleaning, open top vapor degreasing, or conveyORIZED degreasing.

Specified air contaminant means any air contaminant as to which this Section contains emission standards or

other specific limitations.

Splash loading means a method of loading a tank, railroad tank car, tank truck, or trailer by use of other than a submerged loading pipe.

Standard conditions means a temperature of 70 °F and a pressure of 14.7 psia.

Standard cubic foot (scf) means the volume of one cubic foot of gas at standard conditions.

Standard Industrial Classification Manual means the Standard Industrial Classification Manual (1987), Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402 (incorporated by reference as specified in 40 CFR 52.742).

Start-up means the setting in operation of an emission source for any purpose.

Stationary emission source and *Stationary source* mean an emission source which is not self-propelled.

Storage tank or storage vessel means any stationary tank, reservoir or container used for the storage of VOL's.

Submerged loading pipe means any discharge pipe or nozzle which meets either of the following conditions:

- (A) Where the tank is filled from the top, the end of the discharge pipe or nozzle must be totally submerged when the liquid level is 15 cm (6 in.) above the bottom of the tank.
- (B) Where the tank is filled from the side, the discharge pipe or nozzle must be totally submerged when the liquid level is 46 cm (18 in.) above the bottom of the tank.

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

Surface condenser means a device which removes a substance from a gas stream by reducing the temperature of the stream, without direct contact between the coolant and the stream.

Tablet coating operation means a pharmaceutical coating operation in which tablets are coated.

Thirty-day rolling average means any value arithmetically averaged over any consecutive thirty-days.

Three-piece can means a can which is made from a rectangular sheet and two circular ends.

Topcoat means a coating applied in a multiple coat operation other than prime coat, final repair coat, or prime surfacer coat.

Topcoat operation means all topcoat spray booths, flash-off areas, and bake ovens at a facility which are used to apply, dry, or cure the final coatings (except final off-line repair) on components of automobile or light-duty truck bodies.

Transfer efficiency means the ratio of the amount of coating solids deposited onto a part or product to the total amount of coating solids used.

True vapor pressure means the equilibrium partial pressure exerted by a volatile organic liquid as determined in accordance with methods described in American Petroleum Institute Bulletin 2517, "Evaporation Loss From Floating Roof Tanks," second edition, February 1980 (incorporated by reference as specified in 40 CFR 52.742).

Two-piece can means a can which is drawn from a shallow cup and requires only one end to be attached.

Undercoaters means any coatings formulated for and applied to substrates to provide a smooth surface for subsequent coats.

Unregulated safety relief valve means a safety relief valve which cannot be actuated by a means other than high pressure in the pipe or vessel which it protects.

Vacuum producing system means any reciprocating, rotary, or centrifugal blower or compressor or any jet ejector or device that creates suction from a pressure below atmospheric and discharges against a greater pressure.

Valves not externally regulated means valves that have no external controls, such as in-line check valves.

Vapor balance system means any combination of pipes or hoses which creates a closed system between the vapor spaces of an unloading tank and a receiving tank such that vapors displaced from the receiving tank are transferred to the tank being unloaded.

Vapor collection system means all piping, seals, hoses, connections, pressure-vacuum vents, and other possible sources between the gasoline delivery vessel and the vapor processing unit and/or the storage tanks and vapor holder.

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

Vapor recovery system means a vapor gathering system capable of collecting all VOM vapors and gases discharged from the storage tank and a vapor disposal system capable of processing such VOM vapors and gases so as to prevent their emission to the atmosphere.

Vehicle means a device by which any person or property may be propelled, moved, or drawn upon a highway, excepting a device moved exclusively by human power or used exclusively upon stationary rails or tracks.

Vinyl coating means any topcoat or printing ink applied to vinyl coated fabric or vinyl sheets. Vinyl coating does not include plastisols.

Vinyl coating facility means a facility that includes one or more vinyl coating line(s).

Vinyl coating line means a coating line in which any protective, decorative or functional coating is applied onto vinyl coated fabric or vinyl sheets.

Volatile organic liquid means any substance which is liquid at storage conditions and which contains volatile organic compounds.

Volatile organic material (VOM) or volatile organic compounds (VOC) is as defined in § 51.100(s) of this chapter.

Wash coat means a coating containing binders which seals wood surfaces, prevents undesired staining, and controls penetration.

Web means a substrate which is printed in continuous roll-fed presses.

Wood furniture means room furnishings including cabinets (kitchen, bath, and vanity), tables, chairs, beds, sofas, shutters, art objects, wood paneling, wood flooring, and any other coated furnishings made of wood, wood composition, or fabricated wood materials.

Wood furniture coating facility means a facility that includes one or more wood furniture coating line(s).

Wood furniture coating line means a coating line in which any protective, decorative, or functional coating is applied onto wood furniture.

Woodworking means the shaping, sawing, grinding, smoothing, polishing, and making into products of any form or shape of wood.

(4) *Testing methods and procedures*—(i) Coatings, inks and fountain solutions. The following test methods and procedures shall be used to determine compliance of as applied coatings, inks, and fountain solutions with the limitations set forth in § 52.741.

(A) *Sampling*. Samples collected for analyses shall be one-liter taken into a one-liter container at a location and time such that the sample will be representative of the coating as applied (i.e., the sample shall include any dilution solvent or other VOM added during the manufacturing process). The container must be tightly sealed immediately after the sample is taken. Any solvent or other VOM added after the sample is taken must be measured and accounted for in the calculations in paragraph (a)(4)(i)(C) of this section. For multiple package coatings, separate samples of each component shall be obtained. A mixed sample shall not be obtained as it will cure in the container. Sampling procedures shall follow the guidelines presented in:

(1) ASTM D3925-81 (Reapproved 1985) Standard Practice for Sampling Liquid Paints and Related Pigment Coating. This practice is incorporated by reference as specified in 40 CFR 52.742.

(2) ASTM E300-86 Standard Practice for Sampling Industrial Chemicals. This practice is incorporated by reference as specified in 40 CFR 52.742.

(B) *Analyses*. The applicable analytical methods specified below shall be used to determine the composition of coatings, inks, or fountain solutions as applied.

(1) Method 24 of 40 CFR part 60, appendix A, shall be used to determine the VOM content and density of coatings. If it is demonstrated to the satisfaction of the Administrator that plant coating formulation data are equivalent to Method 24 results, formulation data may be used. In the event of any inconsistency between a Method 24 test and a facility's formulation data, the Method 24 test will govern.

(2) Method 24A of 40 CFR part 60, appendix A, shall be used to determine the VOM content and density of rotogravure printing inks and related coatings. If it is demonstrated to the satisfaction of the Administrator that the plant coating formulation data are equivalent to Method 24A results, formulation data may be used. In the event of any inconsistency between a Method 24A test and a facility's formulation data, the Method 24A test will govern.

(3) The following ASTM methods are the analytical procedures for determining VOM:

(i) ASTM D1475-85: Standard Test Method for Density of Paint, Varnish, Lacquer and Related Products. This test method is incorporated by reference as specified in 40 CFR 52.742.

(ii) ASTM D2369-87: Standard Test Method for Volatile Content of Coatings. This test method is incorporated by reference as specified in 40 CFR 52.742.

(iii) ASTM D3792-86: Standard Test Method for Water Content of Water-reducible Paints by Direct Injection into a Gas Chromatograph. This test method is incorporated by reference as specified in 40 CFR 52.742.

(iv) ASTM D4017-81 (Reapproved 1987): Standard Test Method for Water in Paints and Paint Materials by the Karl Fischer Method. This test method is incorporated by reference as specified in 40 CFR 52.742.

(v) ASTM D4457-85: Standard Test Method for Determination of Dichloromethane and 1,1,1-Trichloroethane in Paints and Coatings by Direct Injection into a Gas Chromatograph. (The procedure delineated above can be used to develop protocols for any compounds specifically exempted from the definition of VOM.) This test method is incorporated by reference as specified in 40 CFR 52.742.

(vi) ASTM D2697-86: Standard Test Method for Volume Non-Volatile Matter in Clear or Pigmented Coatings. This test method is incorporated by reference as specified in 40 CFR 52.742.

(vii) ASTM D3980-87: Standard Practice for Interlaboratory Testing of Paint and Related Materials. This practice is incorporated by reference as specified in 40 CFR 52.742.

(viii) ASTM E180-85: Standard Practice for Determining the Precision of ASTM Methods for Analysis of and Testing of Industrial Chemicals. This practice is incorporated by reference as specified in 40 CFR 52.742.

(ix) ASTM D2372-85: Standard Method of Separation of Vehicle from Solvent-reducible Paints. This method is incorporated by reference as specified in 40 CFR 52.742.

(4) Use of an adaptation to any of the analytical methods specified in paragraphs (a)(4)(i)(B)(1), (2) and (3) may be approved by the Administrator on a case-by-case basis. An owner or operator must submit sufficient documentation for the Administrator to find that the analytical methods specified in paragraphs (a)(4)(i)(B)(1), (2) and (3) will yield inaccurate results and that the proposed adaptation is appropriate.

(C) *Calculations.* Calculations for determining the VOM content, water content and the content of any compounds which are specifically exempted from the definition of VOM of coatings, inks and fountain solutions as applied shall follow the guidance provided in the following documents.

(1) "A Guide for Surface Coating Calculation" EPA-340/1-86-016 (which is available from the National Technical Information Services, 5285 Port Royal Road, Springfield, VA 22161)

(2) "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink and Other Coatings" (revised June 1986) EPA-450/3-84-019 (which is available from the National Technical Information Services, 5285 Port Royal Road, Springfield, VA 22161)

(3) "A Guide for Graphic Arts Calculations" August 1988 EPA-340/1-88-003 (which is available from the National Technical Information Services, 5285 Port Royal Road, Springfield, VA 22161)

(ii) *Automobile or light-duty truck test protocol.* The protocol for testing, including determining the transfer efficiency, of coating applicators at topcoat coating operations at an automobile assembly facility shall follow the procedure in: "Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operations" December 1988 EPA-450/3-88-018 (which is available for purchase from the National Technical Information Services, 5285 Port Royal Road, Springfield, VA 22161)

(iii) *Capture system efficiency test protocols—(A) Applicability.* The requirements of paragraphs (a)(4)(iii)(B) of this section shall apply to all VOM emitting processes employing capture equipment (e.g., hoods, ducts), except those cases noted below.

(1) If a source installs a permanent total enclosure (PTE) that meets USEPA specifications, and which directs all VOM to a control device, then the source is exempted from the requirements described in paragraph (B). The USEPA specifications to determine whether a structure is considered a PTE are given in Procedure T of appendix B of this section. In this instance, the capture efficiency is assumed to be 100 percent and the source is still required to measure control efficiency using appropriate test methods as specified in (a)(4)(iv) of this section.

(2) If a source uses a control device designed to collect and recover VOM (e.g., carbon adsorber), an explicit measurement of capture efficiency is not necessary provided that the conditions given below are met. The overall control of the system can be determined by directly comparing the input liquid VOM to the recovered liquid VOM. The general procedure for use in this situation is given in 40 CFR 60.433, with the following additional restrictions:

(i) The source must be able to equate solvent usage with solvent recovery on a 24-hour (daily) basis, rather than a 30-day weighted average, within 72 hours following the 24-hour period. In addition, one of the following two criteria must be met:

(ii) The solvent recovery system (i.e., capture and control system) must be dedicated to a single process line (e.g., one process line venting to a carbon adsorber system), or

(iii) If the solvent recovery system controls multiple process lines, then the source must be able to demonstrate that the overall control (i.e., the total recovered solvent VOM divided by the sum of liquid VOM input to all process lines venting to the control system) meets or exceeds the most stringent standard applicable for any process line venting to the control system.

(B) *Specific requirements.* The capture efficiency of a process line shall be measured using one of the four protocols given below. Any error margin associated with a test protocol may not be incorporated into the results of a capture efficiency test. If these techniques are not suitable for a particular process, then the source must present an alternative capture efficiency protocol and obtain approval for it by the Administrator as a SIP or FIP revisions.

(1) Gas/gas method using temporary total enclosure (TTE). The USEPA specifications to determine whether a temporary enclosure is considered a TTE are given in Procedure T of appendix B of this section. The capture efficiency equation to be used for this protocol is:

$$CE = Gw / (GW + Fw)$$

Where:

CE = capture efficiency, decimal fraction. Gw = mass of VOM captured and delivered to control device using a TTE. Fw = mass of fugitive VOM that escapes from a TTE.

Procedure G.2 contained in appendix B of this section is used to obtain Gw. Procedure F.1 in appendix B of this section is used to obtain Fw.

(2) *Liquid/gas method using TTE.* The USEPA specifications to determine whether a temporary enclosure is considered a TTE are given in Procedure T of appendix B of this section. The capture efficiency equation to be used for this protocol is:

$$CE = (L - F) / L$$

Where:

CE = capture efficiency, decimal fraction. L = mass of liquid VOM input to process. Fw = mass of fugitive VOM that escapes from a TTE.

Procedure L contained in appendix B of this section is used to obtain L. Procedure F.1 in appendix B of this section is used to obtain Fw.

(3) Gas/gas method using the building or room (building or room enclosure) in which the affected source is located as the enclosure and in which “F” and “G” are measured while operating only the affected facility. All fans and blowers in the building or room must be operated as they would under normal production. The capture efficiency equation to be used for this protocol is:

$$CE = G / (G + F_B)$$

Where:

CE = capture efficiency, decimal fraction. G = mass of VOM captured and delivered to control device. F_B = mass of fugitive VOM that escapes from building enclosure.

Procedure G.2 contained in appendix B of this section is used to obtain G. Procedure F.2 in appendix B of this section is used to obtain F_B .

(4) Liquid/gas method using the building or room (building or room enclosure) in which the affected source is located as the enclosure and in which “F” and “L” are measured while operating only the affected facility. All fans and blowers in the building or room must be operated as they would under normal production. The capture efficiency equation to be used for this protocol is:

$$CE = (L - F_B) / L$$

Where:

CE = capture efficiency, decimal fraction. L = mass of liquid VOM input to process. F_B = mass of fugitive VOM that escapes from building enclosure.

Procedure L contained in appendix B of this section is used to obtain L. Procedure F.2 in appendix B of this section is used to obtain F_B .

(C) *Recordkeeping and reporting.* (1) All affected facilities must maintain a copy of the capture efficiency protocol submitted to USEPA on file. All results of the appropriate test methods and capture efficiency protocols must be reported to USEPA within sixty (60) days of the test date. A copy of the results must be kept on file with the source for a period of three (3) years.

(2) If any changes are made to capture or control equipment, then the source is required to notify USEPA of these changes and a new test may be required by USEPA.

(3) The source must notify the Administrator 30 days prior to performing any capture efficiency or control test. At that time, the source must notify the Administrator which capture efficiency protocol and control device test methods will be used.

(4) Sources utilizing a PTE must demonstrate that this enclosure meets the requirement given in Procedure T (in appendix B of this section) for a PTE during any testing of their control device.

(5) Sources utilizing a TTE must demonstrate that their TTE meets the requirements given in Procedure T (in appendix B of this section) for a TTE during testing of their control device. The source must also provide documentation that the quality assurance criteria for a TTE have been achieved.

(iv) *Control device efficiency testing and monitoring.* (A) The control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in

accordance with the gas phase test methods specified in paragraph (a)(4)(vi) of this section.

(B) Any owner or operator that uses an afterburner or carbon adsorber to comply with any paragraph of § 52.741 shall use USEPA approved continuous monitoring equipment which is installed, calibrated, maintained, and operated according to vendor specifications at all times the afterburner or carbon adsorber is in use. The continuous monitoring equipment must monitor the following parameters:

(1) Combustion chamber temperature of each afterburner.

(2) Temperature rise across each catalytic afterburner bed or VOM concentration of exhaust.

(3) The VOM concentration of each carbon adsorption bed exhaust.

(v) *Overall efficiency.* (A) The overall efficiency of the emission control system shall be determined as the product of the capture system efficiency and the control device efficiency or by the liquid/liquid test protocol as specified in 40 CFR 60.433 (and revised by paragraph (a)(4)(iii)(A)(2) of this section for each solvent recovery system. In those cases in which the overall efficiency is being determined for an entire line, the capture efficiency used to calculate the product of the capture and control efficiency is the total capture efficiency over the entire line.

(B) For coating lines which are both chosen by the owner or operator to comply with paragraphs (e)(2)(ii), (e)(2)(iii), (e)(2)(iv), (e)(2)(v), or (e)(2)(vi) of this section by the alternative in paragraph (e)(2)(i)(B) of this section and meet the criteria allowing them to comply with paragraph (e)(2) of this section instead of paragraph (e)(1) of this section, the overall efficiency of the capture system and control device, as determined by the test methods and procedures specified in paragraphs (a)(4)(iii), (iv) and (v)(A) of this section, shall be no less than the equivalent overall efficiency which shall be calculated by the following equation:

$$E = ([VOM_a - VOM_1] / VOM_a) \times 100$$

Where:

E = Equivalent overall efficiency of the capture system and control device as a percentage, VOM_a = Actual VOM content of a coating, or the daily-weighted average VOM content of two or more coatings (if more than one coating is used), as applied to the subject coating line as determined by the applicable test methods and procedures specified in paragraph (a)(4)(i) of this section in units of kg VOM/l (lb VOM/gal) of coating solids as applied, VOM_1 = The VOM emission limit specified in paragraph (e)(2)(i) or (ii) of this section in units of kg VOM/l (lb VOM/gal) of coating solids as applied.

(vi) *Volatile organic material gas phase source test methods.* The methods in 40 CFR part 60, appendix A, delineated below shall be used to determine control device efficiencies.

(A) 40 CFR part 60, appendix A, Method 18, 25 or 25A, as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. Except as indicated in paragraphs (a)(4)(vi)(A)(1) and (2) of this section, the test shall consist of three separate runs, each lasting a minimum of 60 min, unless the Administrator determines that process variables dictate shorter sampling times.

(1) When the method is to be used to determine the efficiency of a carbon adsorption system with a common exhaust stack for all the individual adsorber vessels, the test shall consist of three separate runs, each coinciding with one or more complete sequences through the adsorption cycles of all the individual adsorber vessels.

(2) When the method is to be used to determine the efficiency of a carbon adsorption system with individual exhaust stacks for each adsorber vessel, each adsorber vessel shall be tested individually. The test for each adsorber vessel shall consist of three separate runs. Each run shall coincide with one or more complete adsorption cycles.

(B) 40 CFR part 60, appendix A, Method 1 or 1A shall be used for sample and velocity traverses.

(C) 40 CFR part 60, appendix A, Method 2, 2A, 2C or 2D shall be used for velocity and volumetric flow rates.

(D) 40 CFR part 60, appendix A, Method 3 shall be used for gas analysis.

(E) 40 CFR part 60, appendix A, Method 4 shall be used for stack gas moisture.

(F) 40 CFR part 60, appendix A, Methods 2, 2A, 2C, 2D, 3 and 4 shall be performed, as applicable, at least twice during each test run.

(G) Use of an adaptation to any of the test methods specified in paragraphs (a)(4)(vi) (A), (B), (C), (D), (E), and (F) of this section may be approved by the Administrator on a case-by-case basis. An owner or operator must submit sufficient documentation for the Administrator to find that the test methods specified in paragraphs (a)(4)(vi) (A), (B), (C), (D), (E), and (F) of this section will yield inaccurate results and that the proposed adaptation is appropriate.

(vii) *Leak detection methods for volatile organic material.* Owners or operators required by the various subparts of this regulation to carry out a leak detection monitoring program shall comply with the following requirements:

(A) *Leak detection monitoring.* (1) Monitoring shall comply with 40 CFR part 60, appendix A, Method 21.

(2) The detection instrument shall meet the performance criteria of Method 21.

(3) The instrument shall be calibrated before use on each day of its use by the methods specified in Method 21.

(4) Calibration gases shall be:

(i) Zero air (less than 10 ppm of hydrocarbon in air); and

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but no less than, 10,000 ppm methane or n-hexane.

(5) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21.

(B) When equipment is tested for compliance with no detectable emissions as required, the test shall comply with the following requirements:

(1) The requirements of paragraphs (a)(4) (vii)(A)(1) through (vii)(A)(5) of this section shall apply.

(2) The background level shall be determined as set forth in Method 21.

(C) Leak detection tests shall be performed consistent with:

(1) "APTI Course SI 417 controlling Volatile Organic Compound Emissions from Leaking Process Equipment" EPA-450/2-82-015 (which is available for purchase from the National Technical Information Services, 5285 Port Royal Road, Springfield, VA 22161)

(2) “Portable Instrument User's Manual for Monitoring VOC Sources” EPA-340/1-86-015 (which is available for purchase from the National Technical Information Services, 5285 Port Royal Road, Springfield, VA 22161)

(3) “Protocols for Generating Unit-Specific Emission Estimates for Equipment Leaks of VOC and VHAP” EPA-450/3-88-010 (which is available for purchase from the National Technical Information Services, 5285 Port Royal Road, Springfield, VA 22161)

(4) “Petroleum Refinery Enforcement Manual” EPA-340/1-80-008 (which is available for purchase from the National Technical Information Services, 5285 Port Royal Road, Springfield, VA 22161)

(viii) *Bulk gasoline delivery system test protocol.* (A) The method for determining the emissions of gasoline from a vapor recovery system are delineated in 40 CFR part 60, subpart XX, § 60.503.

(B) Other tests shall be performed consistent with:

(1) “Inspection Manual for Control of Volatile Organic Emissions from Gasoline Marketing Operations: Appendix D” EPA-340/1-80-012 (which is available for purchase from the National Technical Information Services, 5285 Port Royal Road, Springfield, VA 22161)

(2) “Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals: Appendix A” EPA-450/2-77-026 (which is available for purchase from the National Technical Information Services, 5285 Port Royal Road, Springfield, VA 22161)

(5) *Compliance dates.* Compliance with the requirements of all rules is required by July 1, 1991, unless otherwise indicated by compliance dates contained in specific rules. This paragraph shall not operate to provide additional time for compliance under section 113(d) of the Act, 42 U.S.C. 7413(d), for sources subject to compliance upon promulgation.

(6) *Afterburners.* The operation of any natural gas fired afterburner and capture system used to comply with § 52.741 is not required during the period of November 1 of any year to April 1 of the following year provided that the operation of such devices is not required for purposes of occupational safety or health, or for the control of toxic substances, odor nuisances, or other regulated pollutants.

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