

Annex A

TITLE 25. ENVIRONMENTAL PROTECTION

PART I. DEPARTMENT OF ENVIRONMENTAL PROTECTION

Subpart C. PROTECTION OF NATURAL RESOURCES

ARTICLE III. AIR RESOURCES

CHAPTER 121. GENERAL PROVISIONS

§ 121.1. Definitions.

The definitions in section 3 of the act (35 P.S. § 4003) apply to this article. In addition, the following words and terms, when used in this article, have the following meanings, unless the context clearly indicates otherwise:

\* \* \* \* \*

*Air dried coating*—Coatings which are dried by the use of air or forced warm air at temperatures up to 194°F.

***Air flask specialty coating*—For purposes of shipbuilding and ship repair coatings under § 129.52 (relating to surface coating processes), Table I, category 12, a special composition coating that is:**

**(i) Applied to interior surfaces of high-pressure breathing air flasks to provide corrosion resistance.**

**(ii) Certified as safe for use with breathing air supplies.**

*Airless cleaning system*—A solvent cleaning machine that is automatically operated and seals at a differential pressure of 0.50 pounds per square inch gauge (psig) or less, prior to the introduction of solvent or solvent vapor into the cleaning chamber and maintains differential pressure under vacuum during all cleaning and drying cycles.

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

***Air oxidation reactor*—For purposes of § 129.71a (relating to control of VOC emissions from the synthetic organic chemical manufacturing industry—air oxidation, distillation and reactor processes):**

**(i) A device or process vessel in which one or more organic reactants are combined with air, or a combination of air and oxygen, to produce one or more organic compounds.**

**(ii) The term includes amnoxidation and oxychlorination reactions.**

*Air pollution*—The presence in the outdoor atmosphere of any form of contaminant, including, but not limited to, the discharging from stacks, chimneys, openings, buildings, structures, open fires, vehicles, processes or any other source of any smoke, soot, fly ash, dust, cinders, dirt, noxious or obnoxious acids, fumes, oxides, gases, vapors, odors, toxic, hazardous or radioactive substances, waste or other matter in a place, manner or concentration inimical or which may be inimical to public health, safety or welfare or which is or may be injurious to human, plant or animal life or to property or which unreasonably interferes with the comfortable enjoyment of life or property.

\* \* \* \* \*

*Ambient air quality standards*—Concentrations of air contaminants in the ambient air, as provided for in Chapter 131 (relating to ambient air quality standards).

**Antenna specialty coating—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, a coating applied to equipment through which electromagnetic signals must pass for reception or transmission.**

*Antichafe coating*—A coating applied to areas of moving aerospace components that may rub during normal operations or installation.

**Antifoulant specialty coating—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, a coating that is:**

**(i) Applied to the underwater portion of a vessel to prevent or reduce the attachment of biological organisms.**

**(ii) Registered with the EPA as a pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C.A. §§ 136—136y).**

*Antique aerospace vehicle or component*—An antique aircraft, as defined by 14 CFR Part 45 (relating to identification and registration marking), or components thereof. An antique aerospace vehicle would not routinely be in commercial or military service in the capacity for which it was designed.

\* \* \* \* \*

*Best available technology*—Equipment, devices, methods or techniques as determined by the Department which will prevent, reduce or control emissions of air contaminants to the maximum degree possible and which are available or may be made available.

**Bitumens—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, black or brown materials that consist mainly of hydrocarbons and are soluble in carbon disulfide.**

**Bituminous resin specialty coating—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12:**

**(i) A coating that incorporates bitumens as a principal component and is formulated primarily to be applied to a substrate or surface to resist ultraviolet radiation or water, or both.**

**(ii) The term is included in the specialty coating category “repair and maintenance of thermoplastic coating of commercial vessels.”**

*Blender*—A person who owns, leases, operates, controls or supervises an oxygenate blending facility.

\* \* \* \* \*

*Closed-cycle depainting system*—A dust free, automated process that removes a permanent coating in small sections at a time and maintains a continuous vacuum around the area being depainted to capture emissions.

**Coal tar**—A dark thick liquid that forms as a byproduct of the process of producing coke from coal.

**Coal tar epoxy coating**—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, a black surface protection polymer that is a blend of various epoxy resins and coal tar used on surfaces subjected to extremely corrosive environments.

*Coating*—

(i) For purposes of wood furniture manufacturing operations under §§ 129.101—129.107, a protective, decorative or functional material applied in a thin layer to a surface.

(A) The term includes paints, topcoats, clear coats, varnishes, sealers, stains, washcoats, basecoats, inks and temporary protective coatings.

(B) The term does not include adhesives.

(ii) For purposes of paper, film and foil surface coating under § 129.52b (relating to control of VOC emissions from paper, film and foil surface coating processes), a material applied onto or impregnated into a substrate for decorative, protective or functional purposes.

(A) The term includes solvent-borne coatings, waterborne coatings, adhesives, wax coatings, wax laminations, extrusion coatings, extrusion laminations, 100% solid adhesives, UV-cured coatings, electron beam-cured coatings, hot melt coatings and cold seal coatings.

(B) The term does not include materials used to form unsupported substrates, such as calendaring of vinyl, blown film, cast film, extruded film and co-extruded film.

**(iii) For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, a material that is applied in a thin layer to a substrate and which cures to form a continuous solid film.**

\* \* \* \* \*

*Cold shutdown*—A cold repair or replacement of damaged or worn refractory parts of a glass melting furnace while the furnace does not contain molten glass.

**Cold weather time period**—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, a time during which the ambient temperature is below 4.5°C (40°F) and coating is to be applied.

*Combustion efficiency*—A measure of the extent of a combustion reaction, abbreviated C. E. and computed as follows:

$$\text{C. E.} = \frac{[\text{CO}_2]}{[\text{CO}_2] + [\text{CO}]} \times 100\%$$

where: [CO<sub>2</sub>] = concentration of carbon dioxide and [CO] = concentration of carbon monoxide

\* \* \* \* \*

*Container glass*—Glass manufactured by pressing, blowing in molds, drawing, rolling or casting which is used as a container.

**Container of coating**—The bucket, pot, can or other holder from which the coating is applied.

*Continuous coater*—A surface coating process that continuously applies coatings onto parts moving along a conveyor. Coatings that are not transferred to the part are recycled to a reservoir. Several types of application methods can be used with a continuous coater including spraying, curtain coating, roller coating, dip coating and flow coating.

\* \* \* \* \*

*Cryoprotective coating*—A coating applied to aerospace vehicles or components that:

- (i) Insulates cryogenic or subcooled surfaces to limit propellant boil-off.
- (ii) Maintains structural integrity of metallic structures during ascent or reentry.
- (iii) Prevents ice formation.

**Cure volatile**—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12:

**(i) A reaction product which is emitted during the chemical reaction which takes place in some coating films at the cure temperature.**

**(ii) The reaction product emissions are other than those from the solvents in the coating and may, in some cases, comprise a significant portion of total VOC or HAP emissions, or both.**

*Curtain coating*—The application of a coating to an object by moving the object through a falling curtain of coating.

\* \* \* \* \*

*Dispersion technique*—An attempt to affect the concentration of a pollutant in the ambient air by methods contained in 40 CFR 51.100(gg)—(kk) (relating to definitions).

**Distillation operation—For purposes of § 129.71a:**

**(i) A process that separates one or more feed streams into two or more exit streams, with each exit stream having component concentrations different from those in the feed streams.**

**(ii) The separation is achieved by the redistribution of the components between the liquid phase and vapor phase as they approach equilibrium within the distillation unit.**

*Distributor*—

(i) A person who transports, stores or causes the transportation or storage of gasoline at any point between a refinery, blending facility or terminal and a retail outlet or wholesale purchaser-consumer's facility.

(ii) For purposes of § 123.22 (relating to combustion units), a person who transports, stores or causes the transportation or storage of commercial fuel oil at any point between a refinery, blending facility or terminal and a retail outlet, wholesale purchaser-consumer's facility or ultimate consumer.

(iii) The term includes a refinery, a blending facility or a terminal.

\* \* \* \* \*

*Engineered wood panel product*—A derivative wood product that is manufactured by binding together the strands, particles, fibers or veneers of wood with adhesives, resins, other coatings or additives, or a combination of these, to form a composite material. The manufacturing process may also use heat or pressure, or both, to form the product. The product is manufactured to precise design specifications which are tested to meet National or international standards.

**Epoxy coating—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, a thermoset coating formed by reaction of a resin containing a reactive epoxide with a curing agent.**

*Epoxy polyamide topcoat*—A coating applied to aerospace vehicles or components when harder films are required or in some areas where engraving is accomplished in camouflage colors.

\* \* \* \* \*

*General plan approval*—A plan approval issued for a category of stationary air contamination sources that the Department determines are similar in nature and that can be adequately regulated using standardized specifications and conditions.

**General use coating—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12:**

**(i) A coating that is not a specialty coating.**

**(ii) The term includes coal tar epoxy coating.**

*Generation*—With respect to ERCs, an action taken by an owner or operator of an air contamination source, emissions unit or facility that results in the actual reduction of emissions.

\* \* \* \* \*

*Heat input*—Heat derived from the combustion of fuel in a NO<sub>x</sub> affected source. The term does not include the heat derived from preheated combustion air, recirculated flue gas or exhaust from another source or combination of sources.

**Heat resistant specialty coating—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, a coating that must withstand a temperature of at least 204°C (400°F) during normal use.**

*Heatset*—An operation in which heat is required to evaporate ink oils from the printing inks that are applied to the substrate.

\* \* \* \* \*

*Heavy-duty diesel vehicle*—A diesel-powered motor vehicle with a GVWR of greater than 14,000 pounds.

**High-gloss specialty coating—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, a coating that achieves at least 85% reflectance on a 60° meter when tested by ASTM Method D-523, “Standard Test Method for Specular Gloss.”**

*High temperature coating*—[An] **For purposes of § 129.73, an** aerospace vehicle or component coating designed to withstand temperatures of more than 350°F.

**High-temperature specialty coating—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, a coating that must withstand a temperature of at least 426°C (800°F) during normal use.**

*High volume-low pressure spray*—The application of a coating by means of a gun which operates between 0.1 and 10.0 psig air pressure.

\* \* \* \* \*

*Inner zone of the Southeast Pennsylvania air basin*—Philadelphia County; the following political subdivision in Bucks County: Bensalem Township, Bristol Borough, Bristol Township, Falls Township, Morrisville Borough and Tullytown Borough; the following political subdivisions in Montgomery County: Abington Township, Bridgeport Borough, Bryn Athyn

Borough, Cheltenham Township, Conshohocken Borough, East Norriton Township, Jenkintown Borough, Lower Merion Township, Lower Moreland Township, Narberth Borough, Norristown Borough, Plymouth Township, Rockledge Borough, Springfield Township, Upper Merion Township, West Conshohocken Borough, West Norriton Township and Whitemarsh Township; and all of Delaware County except for Bethel Township, Birmingham Township, Chester Heights Borough, Concord Township, Edgemont Township, Newton Township and Thornbury Township.

**Inorganic zinc (high-build) primer specialty coating—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, a coating that:**

**(i) Contains 960 g/l (8 lb/gal) or more of elemental zinc incorporated into an inorganic silicate binder that is applied to steel to provide galvanic corrosion resistance.**

**(ii) Is typically applied at more than 2 mils dry film thickness.**

*Insulation covering*—Material that is applied to foam insulation to protect the insulation from mechanical or environmental damage.

\* \* \* \* \*

*LDT—light-duty truck—*

(i) For purposes of § 129.52 [(relating to surface coating processes)], a light-duty truck is a motor vehicle rated at 8,500 pounds gross vehicle weight or less which is designed primarily for purposes of transportation or major components of the vehicle, including, but not limited to, chassis, frames, doors and engines.

(ii) For purposes of Chapter 126, Subchapter D (relating to the Pennsylvania Clean Vehicles Program), a light-duty truck is a motor vehicle rated at 8,500 pounds gross vehicle weight or less which is designed primarily for purposes of transportation of property or is a derivative of such a vehicle, or is available with special features enabling off-street or off-highway operation and use.

\* \* \* \* \*

*Marine deck sealant or marine deck sealant primer*—A sealant or sealant primer labeled for application to wooden marine decks.

**Maximum allowable thinning ratio—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, the maximum volume of thinner that can be added per volume of coating without violating the applicable VOC limit in § 129.52, Table I, category 12.**

*Maximum heat input capacity*—The maximum steady state heat input under which a source may be operated as determined by its physical design and characteristics. Maximum heat input capacity is expressed in millions of British Thermal Units (MMBtu) per unit of time.

\* \* \* \* \*

*Metalized epoxy coating*—A coating applied to aerospace vehicles or components that contains relatively large quantities of metallic pigmentation for appearance or added protection, or both.

**Military exterior specialty coating—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12:**

**(i) An exterior topcoat applied to a military or U.S. Coast Guard vessel that is subject to specific chemical, biological or radiological washdown requirements.**

**(ii) The term is also known as a chemical agent resistant coating.**

*Minor operating permit modification*—A change to incorporate de minimis conditions and other insignificant physical changes to a source or applicable requirements into an existing permit or a change that does not require plan approval but which contravenes an express permit term. The term does not include the following:

\* \* \* \* \*

*Miscellaneous metal parts and products*—Items made of ferrous or nonferrous metals, including large farm machinery, small farm machinery, small appliances, commercial and industrial machinery, fabricated metal products and items listed under the Standard Industrial Classification Codes 3300—3999. The term does not include cans, coils, automobiles, light-duty trucks, metal furniture, magnet wire, large appliances, aerospace vehicles or components and automobile refinishing and customized top coating of automobiles and trucks, if production since January 1, 1987, has not exceeded 34 vehicles per day.

**Mist specialty coating—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, a low viscosity, thin film, epoxy coating applied to an inorganic zinc primer that penetrates the porous zinc primer and allows the occluded air to escape through the paint film prior to curing.**

*Mobile air contamination source*—An air contamination source, including, but not limited to, automobiles, trucks, tractors, buses and other motor vehicles; railroad locomotives; ships, boats and other waterborne craft. The term does not include a source mounted on a vehicle, whether the mounting is permanent or temporary, which source is not used to supply power to the vehicle.

\* \* \* \* \*

*Natural-finish hardwood plywood panel*—A panel on which the original grain pattern is enhanced by an essentially transparent finish frequently supplemented by filler and toner.

**Navigational aids specialty coating—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, a coating applied to a U.S. Coast Guard buoy or other U.S. Coast Guard waterway marker when it is recoated aboard ship at its usage site and immediately returned to the water.**



*Necessary preconstruction approvals or permits*—Those permits or approvals required under the Clean Air Act or the act and regulations adopted under the acts, which are part of the applicable SIP.

\* \* \* \* \*

*Non-Phase 2 outdoor wood-fired boiler*—An outdoor wood-fired boiler that has not been certified or qualified by the EPA as meeting a particulate matter emission limit of 0.32 pounds per million Btu output or lower and is labeled accordingly.

***Nonskid specialty coating*—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, a coating applied to the horizontal surfaces of a marine vessel for the specific purpose of providing slip resistance for personnel, vehicles or aircraft.**

*Nonspecific particulate matter*—Particulate matter which is nonodorous and nonirritating, including, but not limited to, alundum, calcium carbonate, cellulose, portland cement, graphite, gypsum, limestone, magnesite, starch, tin oxide and glycerine mist.

*Nonstructural adhesive*—An adhesive applied to aerospace vehicles or components that bonds nonload bearing aerospace components in noncritical applications and is not included in any other specialty adhesive categories.

***Nonvolatiles*—Substances that do not evaporate readily. The term:**

**(i) Refers to the film-forming material of a coating.**

**(ii) Is also known as solids.**

***Normally closed*—A container or piping system that remains closed unless an operator is actively engaged in adding or removing material.**

*Normally closed container*—A container that is closed unless an operator is actively engaged in activities such as emptying or filling the container.

*Northeast Ozone Transport Region*—The ozone transport region which includes this Commonwealth as established by section 184(a) of the Clean Air Act.

***Nuclear specialty coating*—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12:**

**(i) A protective coating used to seal porous surfaces such as steel or concrete that otherwise would be subject to intrusion by radioactive materials.**

**(ii) The coating must meet the following:**

**(A) Be resistant to long-term (service life) cumulative radiation exposure AS DETERMINED BY (ASTM D4082-89, “Standard Test Method for Effects of Gamma Radiation on Coatings for Use in Light-Water Nuclear Power Plants”).**

**(B) Be relatively easy to decontaminate AS DETERMINED BY ASTM D4256-89 OR 94, REAPPROVED 1994, “STANDARD TEST METHOD FOR DETERMINATION OF THE DECONTAMINABILITY OF COATINGS USED IN LIGHT-WATER NUCLEAR POWER PLANTS.”**

**(C) Be resistant to various chemicals to which the coating is likely to be exposed AS DETERMINED BY (ASTM D 3912-80, reapproved 1989, “Standard Test Method for Chemical Resistance of Coatings Used in Light-Water Nuclear Power Plants”).**

O<sub>2</sub>—Oxygen.

\* \* \* \* \*

*Operating parameter value*—A minimum or maximum value established for a control [equipment] **device or** process parameter that, if achieved by itself or in combination with one or more other operating parameter values, determines whether an owner or operator has complied with an applicable emission limitation **or standard**.

\* \* \* \* \*

*Organic liquid cargo vessel*—A tanker, freighter, barge, vessel, ship or boat used for the bulk transport of organic liquid cargo.

**Organic zinc specialty coating—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, a coating derived from zinc dust incorporated into an organic binder that contains more than 960 g/l (8 lb/gal) of elemental zinc, as applied, and that is used for the express purpose of corrosion protection.**

*Outdoor floor covering installation adhesive*—An adhesive intended by the manufacturer for use in the installation of floor covering that is both of the following:

- (i) Not in an enclosure.
- (ii) Exposed to ambient weather conditions during normal use.

\* \* \* \* \*

*Plastics*—Synthetic materials chemically formed by the polymerization of organic (carbon-based) substances. Plastics are usually compounded with modifiers, extenders or reinforcers and are capable of being molded, extruded, cast into various shapes and films or drawn into filaments.

**Pleasure craft—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, a marine or fresh-water vessel used by an individual for noncommercial, nonmilitary or recreational purposes that is less than 20 meters in length, including a vessel rented exclusively to or chartered for individuals for such purposes.**

*Plywood*—A structural material made of layers of laminated plies of veneers or layers of wood glued together, usually with the grains of adjoining layers at right angles to each other.

\* \* \* \* \*

*Pretreatment coating*—An organic coating that contains at least 0.5% acids by weight and is applied directly to metal surfaces of aerospace vehicles and components to provide surface etching, corrosion resistance, adhesion and ease of stripping.

**Pretreatment wash primer specialty coating**—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, a coating that contains a minimum of 0.5% acid, by mass, and is applied only to bare metal to etch the surface and enhance adhesion of a subsequent coating.

*Primary furnace combustion system*—The burners in a glass melting furnace that are used during production of glass.

\* \* \* \* \*

*Process heater*—

(i) An enclosed device using controlled flame, that is not a boiler, the primary purpose of which is to transfer heat to a process material or to a heat transfer material for use in a process unit.

(ii) The term does not include an enclosed device that meets either of the following circumstances:

(A) Has the primary purpose of generating steam.

(B) In which the material being heated is in direct contact with the products of combustion, including:

(I) A furnace.

(II) A kiln.

(III) An unfired waste heat recovery heater.

(IV) A unit used for comfort heat, space heat or food preparation for onsite consumption.

(V) An autoclave.

**Process vent**—For purposes of § 129.71a, the point of discharge to the atmosphere or the point of entry into a control device of a gas stream from a unit operation subject to § 129.71a.

*Project*—A physical change in or change in the method of operation of an existing facility, including a new emissions unit.

\* \* \* \* \*

*Reactor*—A vat or vessel, which may be jacketed to permit temperature control, designed to contain chemical reactions.

**Reactor process—For purposes of § 129.71a, a unit operation in which one or more chemicals or reactants other than air are combined or decomposed in a way that their molecular structures are altered and one or more new organic compounds are formed.**

*Reading air basin*—The political subdivisions in Berks County of Bern Township, Cumru Township, Kenhorst Borough, Laureldale Borough, Leesport Borough, Lower Alsace Township, Mohnton Borough, Mt. Penn Borough, Muhlenberg Township, City of Reading, Shillington Borough, Sinking Spring Borough, Spring Township, St. Lawrence Borough, Temple Borough, West Lawn Borough, West Reading Borough, Wyomissing Borough and Wyomissing Hills Borough.

\* \* \* \* \*

*Renewal*—The process by which a permit may be reissued at the end of its term.

**Repair and maintenance of thermoplastic coating of commercial vessels specialty coating—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12:**

**(i) A vinyl, chlorinated rubber or bituminous resin coating that is applied over the same type of existing coating to perform the partial recoating of an in-use commercial vessel.**

**(ii) The term does not include coal tar epoxy coating, which is considered a “general use” coating.**

*Replacement source*—A new source which is replacing a NO<sub>x</sub> affected source where both sources are under common ownership located within this Commonwealth. The NO<sub>x</sub> affected source shall be deactivated or permitted only as an emergency standby unit to the replacement source with operation limited to a maximum of 500 hours per year following commencement of operation of the replacement source.

\* \* \* \* \*

*Rubber-based adhesive*—A quick setting contact cement applied to [aerospace] aerospace vehicles and components that provides a strong, yet flexible, bond between two mating surfaces that may be of dissimilar materials.

**Rubber camouflage specialty coating—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, an epoxy coating formulated for use as a camouflage topcoat for exterior submarine hulls and sonar domes.**

*SCAQMD—South Coast Air Quality Management District*—The California regional government agency responsible for air pollution control in Los Angeles and Orange counties and parts of Riverside and San Bernardino counties.

\* \* \* \* \*

*Sealant*—

(i) For purposes of § 129.73:

(A) A material used to prevent the intrusion of water, fuel, air or other liquids or solids from certain areas of aerospace vehicles or components.

(B) There are two categories of sealants:

(I) Extrudable/rollable/brushable sealants.

(II) Sprayable sealants.

(ii) For purposes of § 129.77 and Chapter 130, Subchapter D:

(A) A material with adhesive properties that is formulated primarily to fill, seal, waterproof or weatherproof gaps or joints between two surfaces.

(B) The term includes caulks.

**Sealant for thermal spray aluminum specialty coating—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, an epoxy coating applied to a thermal spray aluminum surface at a maximum film thickness of 1 dry mil.**

*Sealant primer*—A product intended by the manufacturer for application to a substrate, prior to the application of a sealant, to enhance the bonding surface.

\* \* \* \* \*

*Sheet-fed printing*—A printing process in which individual sheets of substrate are fed sequentially to the printing press.

**Ship—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, a marine or freshwater vessel used for military or commercial operations.**

**(i) The term includes the following:**

**(A) Barges.**

**(B) Commercial cargo and container vessels.**

**(C) Commercial passenger and cruise vessels.**

**(D) Dredges.**

**(E) Ferries.**

**(F) U.S. Military and U.S. Coast Guard vessels.**

**(G) Navigational aids like buoys.**

**(H) Patrol and pilot boats.**

**(I) Self-propelled vessels.**

**(J) Tankers.**

**(K) Vessels propelled by other craft such as barges.**

**(ii) The term does not include the following:**

**(A) Offshore oil and gas drilling platforms.**

**(B) Pleasure craft.**

**Shipbuilding and ship repair operation—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, the building, repair, repainting, converting or alteration of a ship.**

*Shutdown*—For purposes of §§ 129.301—129.310, the period of time during which a glass melting furnace is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to a cold or ambient temperature as the fuel supply is turned off.

\* \* \* \* \*

*Space vehicle*—A manmade device, either manned or unmanned, designed for operation beyond earth's atmosphere.

(i) The term includes integral equipment, such as models, mock-ups, prototypes, molds, jigs, tooling, hardware jackets and test coupons.

(ii) The term also includes auxiliary equipment associated with test, transport and storage, that through contamination can compromise the space vehicle performance.

**Special marking specialty coating—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, a coating that is used for safety or identification applications, such as ship numbers and markings on flight decks.**

*Specialty coating*—[A]

(i) **For purposes of § 129.73, a** coating applied to aerospace vehicles or components that, even though it meets the definition of a primer, topcoat or self-priming topcoat, has additional performance criteria beyond those of primers, topcoats and self-priming topcoats for specific applications. These performance criteria **[may include, but are not limited to,] include**

temperature or fire resistance, substrate compatibility, antireflection, temporary protection or marking, sealing, adhesively joining substrates or enhanced corrosion protection.

**(ii) For purposes of shipbuilding and ship repair coatings under § 129.52, a coating that is manufactured or used for one of the specialized shipbuilding and ship repair coating applications listed in Table I, coating categories 12(ii)(a)—(v).**

**Specialty interior coating—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, a coating used on an interior surface aboard a U.S. military vessel that is required to meet specified fire retardant and low toxicity requirements in addition to the other applicable military physical and performance requirements.**

*Specialized function coating*—A coating applied to aerospace vehicles or components that fulfills extremely specific engineering requirements that are limited in application and are characterized by low volume usage. This category excludes coatings included in other specialty coating categories.

\* \* \* \* \*

*TPY*—Tons per year.

**Tack specialty coating—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, a thin film epoxy coating applied at a maximum film thickness of 2 dry mils to prepare an epoxy coating that has dried beyond the time limit specified by the manufacturer for the application of the next coat.**

*Tank car*—A rail car which is used for transporting liquids in bulk in an unpackaged form.

\* \* \* \* \*

*Thinner*—

**(i)** A volatile liquid that is used to dilute coatings (to reduce viscosity, color strength or solids content or to modify drying conditions).

**(ii)** For purposes of shipbuilding and ship repair coatings under § 129.52, a liquid that is used to reduce the viscosity of a coating and that evaporates before or during the cure of a film.

**(iii)** The term includes diluent, makeup solvent, **thinning solvent** or reducer.

**Thinning ratio—The volumetric ratio of thinner to coating, as supplied.**

*Tileboard*—A premium interior wall paneling product made of hardboard that is used in high moisture areas of the home, including kitchens and bathrooms, and which meets the specifications for Class I hardboard approved by the American National Standards Institute.

\* \* \* \* \*

*Undersea-based weapons systems components*—The fabrication of parts, parts assembly or completed units of a portion of a missile launching system used on undersea ships.

**Undersea weapons systems specialty coating**—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12, a coating applied to a component of a weapons system intended to be launched or fired from under the surface of the sea.

*Undertread cementing*—The application of a solvent-based cement to the underside of a tire tread.

\* \* \* \* \*

*Web printing*—A printing process in which continuous rolls of substrate material are fed to the printing press and rewound or cut to size after printing.

**Weld-through preconstruction primer specialty coating**—For purposes of shipbuilding and ship repair coatings under § 129.52, Table I, category 12:

**(i) A coating that:**

**(A) Provides corrosion protection for steel during inventory.**

**(B) Is typically applied at less than 1 mil dry film thickness.**

**(C) Is temperature resistant (burn back from a weld is less than 1.25 centimeters (0.5 inch)).**

**(D) Does not require removal prior to welding.**

**(E) Does not normally require removal before applying film-building coatings, including an inorganic zinc (high-build) primer specialty coating.**

**(ii) When constructing new vessels, there may be a need to remove areas of this type of coating due to surface damage or contamination prior to application of film-building coatings.**

*Wet fastener installation coating*—A primer or sealant applied to aerospace vehicles or components by dipping, brushing or daubing on fasteners which are installed before the coating is cured.

\* \* \* \* \*

## CHAPTER 129. STANDARDS FOR SOURCES SOURCES OF VOCs

### § 129.52. Surface coating processes.

(a) This section applies **as follows** to **the owner and operator of** a [surface]:



**(1) Surface** coating process category **listed in Table I, categories 1—11**, regardless of the size of the facility, which emits or has emitted VOCs into the outdoor atmosphere in quantities greater than 3 pounds (1.4 kilograms) per hour, 15 pounds (7 kilograms) per day or 2.7 tons (2,455 kilograms) per year during any calendar year since January 1, 1987.

**(2) Shipbuilding or ship repair facility that has a surface coating operation that uses or applies more than 264 gallons of one or a combination of coatings listed in Table I, category 12, beginning** *(Editor's Note: The blank refers to the effective date of this rulemaking, when published as a final-form rulemaking.)*.

\* \* \* \* \*

(c) **[A] The owner or operator of a** facility, regardless of the facility's annual emission rate, which contains surface coating processes shall maintain records sufficient to demonstrate compliance with this section. At a minimum, a facility shall maintain daily records of:

(1) The following parameters for each coating, thinner and other component as supplied:

- (i) The coating, thinner or component name and identification number.
- (ii) The volume used.
- (iii) The mix ratio.
- (iv) The density or specific gravity.
- (v) The weight percent of total volatiles, water, solids and exempt solvents.
- (vi) The volume percent of solids for Table I surface coating process categories 1—10.

**(vii) The volume percent of solids for a Table I surface coating process category 12 coating whose VOC content is expressed in units of weight of VOC per volume of coating solids.**

(2) The VOC content of each coating, thinner and other component as supplied.

\* \* \* \* \*

**Table I**  
**Emission Limits of VOCs in Surface Coatings by Process Category**  
**Weight of VOC per Volume of Coating Solids**

<i>Surface Coating Process Category</i>	<i>lbs VOC per gal coating solids</i>	<i>kg VOC per liter coating solids</i>
1. Can coating		
(a) sheet basecoat	4.62	0.55
(b) can exterior	4.62	0.55

(c) interior body spray	10.05	1.20
(d) two piece can end exterior	10.05	1.20
(e) side-seam spray	21.92	2.63
(f) end sealing compound	7.32	0.88
2. Coil coating	4.02	0.48
3. Fabric coating	4.84	0.58
4. Vinyl coating	7.69	0.92
5. Paper coating	4.84	0.58
6. Automobile and light duty truck coating		
(a) prime coat	2.60	0.31
(b) top coat	4.62	0.55
(c) repair	14.14	1.69
7. Metal furniture coating	5.06	0.61
8. Magnet wire coating	2.16	0.26
9. Large appliance coating	4.62	0.55
Categories 1—9 were adopted on April 17, 1979		
10. Miscellaneous metal parts & products		
(a) top coats for locomotives and heavy-duty trucks	6.67	0.80
(b) hopper car and tank car interiors	6.67	0.80
(c) pail and drum interiors	10.34	1.24
(d) clear coatings	10.34	1.24
(e) air-dried coatings	6.67	0.80
(f) extreme performance coatings	6.67	0.80
(g) all other coatings	5.06	0.61
Category 10 was adopted on April 21, 1981		

### Weight of VOC per Weight of Coating Solids

	<i>lbs VOC per lb coating solids</i>	<i>kg VOC per kg coating solids</i>
11. Wood furniture manufacturing operations		
(a) Topcoats and enamels	3.0	3.0
(b) Washcoat	14.3	14.3
(c) Final repair coat	3.3	3.3
(d) Basecoats	2.2	2.2
(e) Cosmetic specialty coatings	14.3	14.3

(f) Sealers 3.9 3.9  
 Category 11 was adopted on May 7, 1988

**12. Shipbuilding and ship repair coatings**

**Weight of VOC per Volume of Coating Less Water and Exempt Compounds<sup>a b</sup>**

	<u>lbs VOC per gallon coating less water and exempt compounds</u>	<u>grams VOC per liter coating less water and exempt compounds</u>
<b><u>(i) General use, including coal tar epoxy coatings</u></b>	<b><u>2.83</u></b>	<b><u>340</u></b>
<b><u>(ii) Specialty coating</u></b>		
<b><u>(a) Air flask</u></b>	<b><u>2.83</u></b>	<b><u>340</u></b>
<b><u>(b) Antenna</u></b>	<b><u>4.42</u></b>	<b><u>530</u></b>
<b><u>(c) Antifoulant</u></b>	<b><u>3.33</u></b>	<b><u>400</u></b>
<b><u>(d) Heat resistant</u></b>	<b><u>3.50</u></b>	<b><u>420</u></b>
<b><u>(e) High-gloss</u></b>	<b><u>3.50</u></b>	<b><u>420</u></b>
<b><u>(f) High-temperature</u></b>	<b><u>4.17</u></b>	<b><u>500</u></b>
<b><u>(g) Inorganic zinc high build primer</u></b>	<b><u>2.83</u></b>	<b><u>340</u></b>
<b><u>(h) Military exterior</u></b>	<b><u>2.83</u></b>	<b><u>340</u></b>
<b><u>(i) Mist</u></b>	<b><u>5.08</u></b>	<b><u>610</u></b>
<b><u>(j) Navigational aids</u></b>	<b><u>4.58</u></b>	<b><u>550</u></b>
<b><u>(k) Nonskid</u></b>	<b><u>2.83</u></b>	<b><u>340</u></b>
<b><u>(l) Nuclear</u></b>	<b><u>3.50</u></b>	<b><u>420</u></b>
<b><u>(m) Organic zinc</u></b>	<b><u>3.00</u></b>	<b><u>360</u></b>
<b><u>(n) Pretreatment wash primer</u></b>	<b><u>6.50</u></b>	<b><u>780</u></b>
<b><u>(o) Repair and maintenance of thermoplastic coating of commercial vessels</u></b>	<b><u>4.58</u></b>	<b><u>550</u></b>
<b><u>(p) Rubber camouflage</u></b>	<b><u>2.83</u></b>	<b><u>340</u></b>
<b><u>(q) Sealant for thermal spray aluminum</u></b>	<b><u>5.08</u></b>	<b><u>610</u></b>
<b><u>(r) Special marking</u></b>	<b><u>4.08</u></b>	<b><u>490</u></b>
<b><u>(s) Specialty interior</u></b>	<b><u>2.83</u></b>	<b><u>340</u></b>
<b><u>(t) Tack</u></b>	<b><u>5.08</u></b>	<b><u>610</u></b>
<b><u>(u) Undersea weapons systems</u></b>	<b><u>2.83</u></b>	<b><u>340</u></b>
<b><u>(v) Weld-through preconstruction primer</u></b>	<b><u>5.42</u></b>	<b><u>650</u></b>

**Weight of VOC per Volume of Coating Solids <sup>c</sup>**

	<u>At temperature less than 4.5°C (40°F) <sup>d</sup></u>		<u>At temperature equal to or greater than 4.5°C (40°F)</u>	
	<u>lbs VOC per gallon coating solids</u>	<u>grams VOC per liter coating solids</u>	<u>lbs VOC per gallon coating solids</u>	<u>grams VOC per liter coating solids</u>
<b><u>(i) General use, including coal tar epoxy coatings</u></b>	<u>6.07</u>	<u>728</u>	<u>4.76</u>	<u>571</u>
<b><u>(ii) Specialty coating</u></b>				
<b><u>(a) Air flask</u></b>	<u>6.07</u>	<u>728</u>	<u>4.76</u>	<u>571</u>
<b><u>(b) Antenna</u></b>	<u>12.01</u>	<u>1,439</u>	<u>12.01</u>	<u>1,439</u>
<b><u>(c) Antifoulant</u></b>	<u>8.10</u>	<u>971</u>	<u>6.38</u>	<u>765</u>
<b><u>(d) Heat resistant</u></b>	<u>8.92</u>	<u>1,069</u>	<u>7.02</u>	<u>841</u>
<b><u>(e) High-gloss</u></b>	<u>8.92</u>	<u>1,069</u>	<u>7.02</u>	<u>841</u>
<b><u>(f) High-temperature</u></b>	<u>13.33</u>	<u>1,597</u>	<u>10.32</u>	<u>1,237</u>
<b><u>(g) Inorganic zinc high build primer</u></b>	<u>6.07</u>	<u>728</u>	<u>4.76</u>	<u>571</u>
<b><u>(h) Military exterior</u></b>	<u>6.07</u>	<u>728</u>	<u>4.76</u>	<u>571</u>
<b><u>(i) Mist</u></b>	<u>18.64</u>	<u>2,235</u>	<u>18.64</u>	<u>2,235</u>
<b><u>(j) Navigational aids</u></b>	<u>13.33</u>	<u>1,597</u>	<u>13.33</u>	<u>1,597</u>
<b><u>(k) Nonskid</u></b>	<u>6.07</u>	<u>728</u>	<u>4.76</u>	<u>571</u>
<b><u>(l) Nuclear</u></b>	<u>8.92</u>	<u>1,069</u>	<u>7.02</u>	<u>841</u>
<b><u>(m) Organic zinc</u></b>	<u>6.69</u>	<u>802</u>	<u>5.26</u>	<u>630</u>
<b><u>(n) Pretreatment wash primer</u></b>	<u>92.58</u>	<u>11,095</u>	<u>92.58</u>	<u>11,095</u>
<b><u>(o) Repair and maintenance of thermoplastic coating of commercial vessels</u></b>	<u>13.33</u>	<u>1,597</u>	<u>13.32</u>	<u>1,597</u>
<b><u>(p) Rubber camouflage</u></b>	<u>6.07</u>	<u>728</u>	<u>4.76</u>	<u>571</u>
<b><u>(q) Sealant for thermal spray aluminum</u></b>	<u>18.65</u>	<u>2,235</u>	<u>18.65</u>	<u>2,235</u>
<b><u>(r) Special marking</u></b>	<u>9.83</u>	<u>1,178</u>	<u>9.83</u>	<u>1,178</u>
<b><u>(s) Specialty interior</u></b>	<u>6.07</u>	<u>728</u>	<u>4.76</u>	<u>571</u>
<b><u>(t) Tack</u></b>	<u>18.65</u>	<u>2,235</u>	<u>18.65</u>	<u>2,235</u>
<b><u>(u) Undersea weapons systems</u></b>	<u>6.07</u>	<u>728</u>	<u>4.76</u>	<u>571</u>
<b><u>(v) Weld-through preconstruction primer</u></b>	<u>24.07</u>	<u>2,885</u>	<u>24.07</u>	<u>2,885</u>

**<sup>a</sup> The limits are expressed in two sets of equivalent units: pounds (lbs) per gallon and grams per liter. Either set of limits may be used to demonstrate compliance.**

**<sup>b</sup> To convert from grams per liter to pounds (lbs) per gallon, multiply the limit by (3,785 liter/gallon) (3.785 LITER/GALLON) (1/453.6 pound/gram) or 1/120. For compliance purposes, metric units define the standards.**

**<sup>c</sup> VOC limits expressed in units of mass of VOC per volume of solids were derived from the VOC limits expressed in units of mass of VOC per volume of coating less water and exempt compounds by assuming the coating contains no water or exempt compounds and that the volumes of all components within the coating are additive.**

**<sup>d</sup> These limits apply during cold weather time periods, that is, temperatures below 4.5°C (40°F). Cold weather allowances are not given to coatings in categories that allow less than 40% solids (nonvolatiles) content by volume. These coatings are subject to the single limit regardless of weather conditions and temperatures.**

**Category 12 was adopted on \_\_\_\_\_ (Editor's Note: The blank refers to the effective date of this rulemaking, when published as a final-form rulemaking.).**

*(Editor's Note: The following sections are proposed to be added and are printed in regular type to enhance readability.)*

#### **§ 129.63b. Control of VOC emissions from large petroleum dry cleaning facilities.**

(a) *Applicability.* This section applies Statewide to the owner and operator of a petroleum solvent washer, dryer, solvent filter, settling tank, vacuum still and other containers and conveyors of petroleum solvent that are used in petroleum dry cleaning facilities that consume 123,000 liters (32,493 gallons) or more of petroleum solvent annually.

(b) *Definitions.* The following words and terms, when used in this section, have the following meanings, unless the context clearly indicates otherwise:

*Cartridge filter*—A perforated canister containing filtration paper or activated carbon, or both, that is used in a pressurized system to remove solid particles and fugitive dyes from soil-laden solvent.

*Consume*—The amount of petroleum solvent purchased less the amount of petroleum solvent sent for disposal or returned for recycling during a calendar year.

*Containers and conveyors of solvent*—Piping, ductwork, pumps, storage tanks and other ancillary equipment that are associated with the installation and operation of petroleum dry cleaning washers, dryers, filters, stills and settling tanks.

*Dry cleaning*—A process for the cleaning of textiles and fabric products in which articles are washed in a nonaqueous solution (solvent) and then dried by exposure to a heated air stream.

*Perceptible leak*—A petroleum solvent vapor or liquid leak that is conspicuous from visual observation. The term includes the following:

(i) A pool or droplet of petroleum solvent liquid.

(ii) A bucket or barrel of petroleum solvent or petroleum solvent-laden waste standing open to the atmosphere.

*Petroleum solvent*—A group of organic materials produced by petroleum distillation comprising a hydrocarbon range of 8 to 12 carbon atoms per organic molecule that exists as a liquid under standard conditions.

*Petroleum solvent recovery dryer*—A class of dry-cleaning dryers that employs a condenser to liquify and recover petroleum solvent vapors evaporated in a closed-loop, recirculating stream of heated air.

(c) *Emission limitations.*

(1) The owner and operator of a petroleum dry cleaning dryer shall do one of the following:

(i) Limit VOC emissions to the atmosphere to an average of 3.5 kilograms (kg) of VOC per 100 kg dry weight of articles dry cleaned.

(ii) Install and operate a petroleum solvent recovery dryer in a manner that the dryer remains closed and the recovery phase continues until a final recovered solvent flow rate of 50 milliliters per minute is attained.

(2) The owner or operator of a petroleum solvent filtration system shall do one of the following:

(i) Reduce the VOC content in filtration wastes to 1.0 kg or less per 100 kg dry weight of articles dry cleaned, before disposal and exposure to the atmosphere.

(ii) Install and operate a cartridge filtration system and drain the filter cartridges in their sealed housings for 8 hours or more before their removal.

(3) The owner or operator of a petroleum dry cleaning dryer or petroleum solvent filtration system shall repair a petroleum solvent vapor or liquid leak within 3 working days after identifying the source of the leak.

(i) If the necessary repair part is not on hand to perform the repair, the owner or operator shall order the part within 3 working days following identification of the source of the leak.

(ii) The owner or operator shall repair the identified leak no later than 3 working days following the arrival of the necessary repair part ordered under subparagraph (i).

(d) *Compliance monitoring and testing requirements.* The owner or operator of a petroleum dry cleaning operation subject to this section shall demonstrate compliance as follows.

(1) To determine compliance with subsection (c)(1)(i), the owner or operator shall do the following:

(i) Calculate the weight of VOC vented from the dryer emission control device using EPA Reference Test Methods 1, 2 and 25A, with the following specifications:

(A) Field calibration of the flame ionization analyzer with propane standards.

(B) Laboratory determination of the ratio of the flame ionization analyzer response to a given parts per million by volume concentration of propane to the response to the same parts per million concentration of the VOC to be measured.

(C) Determination of the weight of VOC emissions vented to the atmosphere by performing the following:

(I) Multiplying the ratio determined in clause (B) by the measured concentration of VOC gas (as propane) as indicated by the flame ionization analyzer response output record.

(II) Converting the parts per million by volume value calculated in subclause (I) into a mass concentration value for the VOCs present.

(III) Multiplying the mass concentration value calculated in subclause (II) by the exhaust flow rate determined by using EPA Reference Test Methods 1 and 2.

(ii) Calculate the dry weight of articles dry cleaned.

(iii) Repeat subparagraphs (i) and (ii) for normal operating conditions that encompass at least 30 dryer loads which meet the following:

(A) Total not less than 1,800 kg dry weight.

(B) Represent a normal range of variations in fabrics, solvents, load weights, temperatures, flow rates and process deviations.

(2) To determine compliance with subsection (c)(1)(ii), the owner or operator shall verify that the flow rate of recovered solvent from the solvent recovery dryer at the termination of the recovery phase is no greater than 50 milliliters per minute by performing the following steps:

(i) Conducting a one-time procedure for a duration of no less than 2 weeks that:

(A) Monitors at least 50% of the dryer loads for their final recovered solvent flow rate.

(B) Measures the flow rate of recovered solvent from the solvent-water separator.

(I) Near the end of the recovery cycle, the flow of recovered solvent should be diverted to a graduated cylinder.

(II) Continue the cycle until the flow rate of the solvent is 50 milliliters per minute.

(ii) Recording the type of articles cleaned and the total length of the cycle measured in subparagraph (i).

(3) To determine compliance with subsection (c)(2)(i) and (ii), the owner or operator shall do the following:

(i) Calculate the weight of VOCs contained in each of five 1-kg samples of filtration waste material taken at intervals of 1 week, using ASTM Method D322-97 (Standard Test Method for Gasoline Diluent in Used Gasoline Engine Oils by Distillation).

(ii) Calculate the total dry weight of articles dry cleaned during the intervals between removal of filtration waste samples, as well as the total mass of filtration waste produced in the same period.

(iii) Calculate the weight of VOCs contained in filtration waste material per 100 kg dry weight of articles dry cleaned.

(4) To determine compliance with subsection (c)(3), the owner or operator shall perform weekly inspections of washers, dryers, solvent filters, settling tanks, vacuum stills and all containers and conveyors of petroleum solvent to identify a perceptible petroleum solvent vapor or liquid leak.

(e) *Recordkeeping and reporting requirements.* The owner or operator of a petroleum dry cleaning facility subject to this section shall maintain records sufficient to demonstrate compliance with this section, including:

(1) Records of the weight of VOC emissions vented from the dryer emission control device, calculated according to subsection (d)(1).

(2) Records of the dry weight of articles dry cleaned for use in the calculations in **subsections SUBSECTION** (d)(1)-(3).

(3) Records of the weight of VOCs contained in the filtration waste samples required in subsection (d)(1)(i).

(4) Records of the weight of VOCs contained in the filtration waste material for each 220 lb (100 kg) dry weight of articles dry cleaned.

(f) *Exemption.* The owner or operator of a petroleum dry cleaning facility subject to subsection (a) claiming exemption from the requirements of subsections (c)—(e) shall maintain records of



annual solvent consumption onsite for 5 years to demonstrate that the applicability threshold of subsection (a) has not been exceeded.

**§ 129.71a. Control of VOC emissions from the synthetic organic chemical manufacturing industry—air oxidation, distillation and reactor processes.**

(a) *Applicability.*

(1) Except as specified in paragraph (3), this section applies to the owner and operator of a synthetic organic chemical manufacturing facility that has a vent stream originating from a process unit in which an air oxidation unit process, distillation operation or reactor process produces one or more of the chemicals listed in Table 1 as a product, coproduct, byproduct or intermediate.

(2) For purposes of this section, reference to total organic compounds or TOC in 40 CFR Part 60, Subpart III (relating to standards of performance for volatile organic compound (VOC) emissions from the Synthetic Organic Chemical Manufacturing Industry (SOCMI) air oxidation unit processes), 40 CFR Part 60, Subpart NNN (relating to standards of performance for volatile organic compound (VOC) emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) distillation operations) or 40 CFR Part 60, Subpart RRR (relating to standards of performance for volatile organic compound (VOC) emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) reactor processes) shall be considered equivalent to VOC as defined in § 121.1 (relating to definitions).

(3) The owner and operator of a synthetic organic chemical manufacturing facility located in this Commonwealth that has a vent stream originating from a process unit in which an air oxidation unit process, distillation operation or reactor process produces one or more of the chemicals listed in Table 1 as a product, coproduct, byproduct or intermediate shall meet the requirements of this section unless more stringent requirements in an applicable permit or plan approval issued by the Department apply.

(b) *Standards.*

(1) *Process vents.* For a process vent that is subject to equivalent VOC control provisions under an existing 40 CFR Part 60 (relating to standards of performance for new stationary sources) or 40 CFR Part 63 (relating to National emission standards for hazardous air pollutants for source categories) standard, compliance with the requirements of the existing 40 CFR Part 60 or 63 standard shall constitute compliance with the provisions of this section.

(2) *Air oxidation unit processes.*

(i) The owner or operator of a source with an air oxidation unit process meeting the applicability criteria in subsection (a) shall comply with the requirements of 40 CFR Part 60, Subpart III unless the source has RACT control measures approved in a permit as part of the Commonwealth's Federally approved SIP prior to \_\_\_\_\_. (*Editor's Note:* The blank refers to the effective date of this rulemaking, when published as a final-form rulemaking.)

(ii) The exemption listed in 40 CFR 60.610(c) (relating to applicability and designation of affected facility) applies to an owner or operator subject to this section.

(iii) Notwithstanding 40 CFR 60.610, for purposes of this section:

(A) An affected source is one that meets the criteria in 40 CFR 60.610(a) regardless of the specific date of construction, modification or reconstruction of the source for a regulated chemical described in subsection (a)(1) and Table 1.

(B) The owner or operator of an affected source shall comply with this section no later than \_\_\_\_\_ (*Editor's Note: The blank refers to the date 2 years after the effective date of this rulemaking, when published as a final-form rulemaking.*).

(iv) Notwithstanding 40 CFR 60.615(a) (relating to reporting and recordkeeping requirements), each owner or operator subject to this section shall notify the Department no later than \_\_\_\_\_ (*Editor's Note: The blank refers to the date 90 days after the effective date of this rulemaking, when published as a final-form rulemaking.*), of the method by which the owner or operator of the affected source will comply with the applicable provisions of 40 CFR 60.612 (relating to standards).

(v) For purposes of this section, 40 CFR 60.616 and 40 CFR 60.618 (relating to reconstruction; and delegation of authority) are not applicable.

(vi) Notwithstanding 40 CFR 60.610(d)(4), 60.614(g) (relating to test methods and procedures), 60.615(c), 60.615(g) (but not 60.615(g)(1) or 60.615(g)(4)), and 60.615(j), a reference to the Administrator shall mean the Department.

(vii) Notwithstanding 40 CFR 60.614(c), the Department reserves the option to require testing at other times as may be required.

(3) *Distillation operations.*

(i) The owner or operator of a source with a distillation operation subject to subsection (a) shall comply with the requirements of 40 CFR Part 60, Subpart NNN.

(ii) The following exemptions apply:

(A) The exemptions listed in 40 CFR 60.660(c) (relating to applicability and designation of affected facility).

(B) The owner or operator of a distillation operation with a vent stream that has a total VOC concentration of less than 500 ppmv is subject only to the test method and procedure and the recordkeeping and reporting requirements specified in 40 CFR 60.660(c)(6) and not to the test method and procedure and the recordkeeping and reporting requirements of this section.

(iii) Notwithstanding 40 CFR 60.660, for purposes of this section:

(A) An affected source is one that meets the criteria in 40 CFR 60.660(a), regardless of the specific date of construction, modification or reconstruction of the source.

(B) A regulated chemical is one described in subsection (a)(1) and Table 1, rather than in 40 CFR 60.667 (relating to chemicals affected by subpart NNN).

(C) The owner or operator of an affected source shall comply with this section no later than \_\_\_\_ (Editor's Note: The blank refers to the date 2 years after the effective date of this rulemaking, when published as a final-form rulemaking.).

(iv) Notwithstanding 40 CFR 60.665(a) (relating to reporting and recordkeeping requirements), each owner or operator subject to this section shall notify the Department no later than \_\_\_\_ (Editor's Note: The blank refers to the date 90 days after the effective date of this rulemaking, when published as a final-form rulemaking.), of the method by which the owner or operator of the affected source will comply with the applicable provisions of 40 CFR 60.662 (relating to standards).

(v) For purposes of this section, 40 CFR 60.666 and 40 CFR 60.668 (relating to reconstruction; and delegation of authority) are not applicable.

(vi) Notwithstanding 40 CFR 60.660(d)(4), 60.664(g)(1) (relating to test methods and procedures), 60.665(c), 60.665(g) (but not 60.665(g)(1)(ii)), 60.665(l), 60.665(n) and 60.665(o), a reference to the Administrator shall mean the Department.

(vii) Notwithstanding 40 CFR 60.664(c), the Department reserves the option to require testing at other times as may be required.

(4) *Reactor processes.*

(i) The owner or operator of a source with a reactor process subject to subsection (a) shall comply with the requirements of 40 CFR Part 60, Subpart RRR.

(ii) The following exemptions apply:

(A) Exemptions listed in 40 CFR 60.700(c) (relating to applicability and designation of affected facility), except that the cutoff for the vent stream flow rate shall be 0.0085 scm/min, not 0.011 scm/min as specified in 40 CFR 60.700(c)(4).

(B) The owner or operator of a reactor operation with a vent stream that has a total VOC concentration of less than 500 ppmv is subject only to the test method and procedure and the recordkeeping and reporting requirements specified in 40 CFR 60.700(c)(8), and not to the test method and procedure and recordkeeping and reporting requirements of this section.

(iii) Notwithstanding 40 CFR 60.700, for purposes of this section:

(A) An affected source is one that meets the criteria in 40 CFR 60.700(a), regardless of the specific date of construction, modification or reconstruction of the source.

(B) A regulated chemical is one described in subsection (a)(1) and Table 1 rather than in 40 CFR 60.707 (relating to chemicals affected by subpart RRR).

(C) The owner or operator of an affected source shall comply with this section no later than \_\_\_\_\_. (*Editor's Note: The blank refers to the date 2 years after the effective date of this rulemaking, when published as a final-form rulemaking.*)

(iv) Notwithstanding 40 CFR 60.705(a) (relating to reporting and recordkeeping requirements), each owner or operator subject to this section shall notify the Department no later than \_\_\_\_\_ (*Editor's Note: The blank refers to the date 90 days after the effective date of this rulemaking, when published as a final-form rulemaking.*), of the method by which the owner or operator of the affected source will comply with the applicable provisions of 40 CFR 60.702 (relating to standards).

(v) For purposes of this section, 40 CFR 60.706 and 40 CFR 60.708 (relating to reconstruction and delegation of authority) are not applicable.

(vi) Notwithstanding 40 CFR 60.700(d)(4), 60.704(f)(1) (relating to test methods and procedures), 60.705(c), 60.705(f) (but not 60.705(f)(1)), 60.705(l), 60.705(n), 60.705(o), 60.705(p) and 60.705(r), a reference to the Administrator shall mean the Department.

(vii) Notwithstanding 40 CFR 60.704(b)(5)(iii), the Department reserves the option to require testing at other times as may be required.

**Table 1. List of Regulated SOCFI Chemicals**

<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
	1,1,1-Tribromo-2-methyl-2-propanol	X				
584032	1,2 Butanediol	X				
28553-12-0	1,2-Benzenedicarboxylic acid diisononyl ester	X				
524-42-5	1,2-Naphthoquinone (particulate, vapor)		X			
	1,4-Dichloride	X				
109693	1-Chloro-4-nitrobenzene	X				
63-25-2	1-Naphthyl-N-methylcarbamate			X		
3071-32-7	1-phenylethyl hydroperoxide	X				
221-341-3	1-Phenylethyl hydroperoxide			X		
107-01-7	2-Butene				X	
110-65-6	2-Butyne-1, 4-diol				X	
26266682	2-Ethylhexanal			X		
53971-27-0	2-Hydroxy-1,2,3-propanetricarboxylic acid	X				
513-35-9	2-Methylbutenes, mixed	X				
	3-Hydroxybutyraldehyde	X				
617-94-7	a,a-Dimethyl Benzyl Alcohol (2-Phenyl-2-Propanol)(Vapor)		X			
	Acrylic esters	X				
67774-74-7	Alkyl benzene	X				
6358-15-2	Amino-3,4,6-trichlorophenol (2-)	X				
85-68-7	Butylbenzyl Phthalate				X	
1111-78-0	Carbamic acid, mono ammonium salt	X				
126-99-8	Chloroprene			X		

61789-31-9	Coconut oil acids, sodium salt	X				
75-34-3	Dichloropropane (1,1-)	X				
85687	Di-n-heptyl-n-nonyl undecyl phthalate			X		
123-66-0	Ethyl caproate	X				
61790-45-2	Fatty acids, tall oil, sodium salt	X				
123013	Linear alkyl benzene	X				
67774-74-7	Linear alkylbenzene			X		
763-29-1	Methyl-1-pentene (2-)	X				
25377837	Octene -	X				
	Pentenenes, mixed	X				
463-49-0	Propadiene		X			
108-32-7	Propyl carbonate	X				
75-56-9	Propylene Oxide			X		
98-51-1	p-tert-Butyltoluene	X				
61790-32-7	Tallow acids, potassium salt	X				
0000057-13-6	Urea ammonium nitrate	X				
76131	(1,1,2-) Trichloro (1,2,2-) trifluoroethane	X		X	X	
104756	(2-Ethylhexyl) amine	X		X	X	
85687	1,2-Benzenedicarboxylic acid butyl, phenyl methyl ester -	X				
78875	1,2-diechloropropane	X				
110576	1,4-Dichlorobutene	X		X	X	
106989	1-Butene	X		X	X	
684255	1-Dodecene -	X				
872504	1-Methyl-2-pyrrolidone	X		X	X	
124118	1-Nonene	X				
25167673	1-Phenyl ethyl hydroperoxide	X		X	X	
3071-32-7	1-Phenylethyl hydroperoxide				X	
	2,2'-Iminobisethanol - 11422	X				

11466	2,2'-Oxybisethanol	X				
80568	2,6,6-Trimethylbicyclo (3,1,1) hept-2-ene	X				
78923	2-Butanol	X				
110656	2-Butene	X		X	X	
126998	2-Butyne-1,4-diol	X		X	X	
78897	2-Chloro-1-propanol	X				
1912249	2-Chloro-4-(ethylamino)-6-(isopropylamino)-S-triazine	X		X		
123057	2-Ethylhexanal -	X				
104767	2-Ethylhexanol (2-ethyl-1-hexanol)	X		X	X	
13042029	2-Hexenedinitrile	X		X		
64037543	3,4-Dichloro-1-butene	X		X	X	
1119853	3-Hexenedintrile	X		X		
4635874	3-Pentenenitrile	X		X	X	
1912249	6-Chloro-N-ethyl-N'-(1-methylethyl)-1,3,5-triazine-2,4-diamine -	X				
15547178	6-Ethyl-1,2,3,4-tetrahydro-9,10-antracenedione	X		X	X	
26952216	6-Methyl-heptanol -	X				
83329	Acenaphthene	X				
105577	Acetal (1,1-diethoxy-ethane)	X				
75070	Acetaldehyde -	X	X	X	X	X
107891	Acetaldol (3-hydroxy-butanal) -	X		X		
60355	Acetamide	X				
60355	Acetamides	X				
103844	Acetanilide	X				
64197	Acetic acid -	X	X	X	X	X
108247	Acetic anhydride -	X	X	X	X	
102012	Acetoacetanilide	X				
67641	Acetone -	X	X	X	X	X

75865	Acetone cyanohydrin -	X		X	X	
75058	Acetonitrile -		X			X
98862	Acetophenone -		X			X
75365	Acetyl chloride	X				
74862	Acetylene -	X		X	X	
79276	Acetylene tetrabromide (1,1,2,2-tetrabromomethane)	X				
107028	Acrolein -		X			X
79061	Acrylamide	X				
79107	Acrylic acid -	X	X	X	X	X
107131	Acrylonitrile -	X	X	X	X	X
124049	Adipic acid -	X		X	X	
111693	Adiponitrile -	X		X	X	
	<b>Alcohols, C-11 or higher, mixtures -</b>	<b>X</b>		<b>X</b>	<b>X</b>	
	<b>ALCOHOLS, C-12 OR HIGHER, MIXTURES</b>	<b>X</b>		<b>X</b>	<b>X</b>	
	Alcohols, C-11 or lower, mixtures -	X		X	X	
	<b>Alcohols, C-12 or higher, unmixed</b>	<b>X</b>				
	<b>Alcohols, C-12 or higher, unmixed</b>				<b>X</b>	
	<b>ALCOHOLS, C-12 OR HIGHER, UNMIXED</b>	<b>X</b>		<b>X</b>	<b>X</b>	
72480	Alizarin	X				
84651	Alkyl anthraquinones	X				
	Alkyl naphthalene sulfonates	X				
91203	Alkyl naphthalenes	X				
107186	Allyl alcohol	X				
106956	Allyl bromide	X				
107051	Allyl chloride	X		X	X	
109751	Allyl cyanide	X				
7360443	Aluminum acetate	X				



7429905	Aluminum formates	X				
1321115	Aminobenzoic acid	X				
111411	Aminoethylethanolamine	X				
123308	Aminophenol (p-isomer)	X				
96-67-3	Aminophenol sulfonic acid	X				
631618	Ammonium acetate	X				
1762954	Ammonium thiocyanate	X				
	Amyl acetates	X				
71410	Amyl alcohol (n-) (1-pentanol)	X				
75854	Amyl alcohol (tert-)	X				
30899195	Amyl alcohols (mixed)	X				
543599	Amyl chloride (n-)	X				
	Amyl chlorides (mixed)	X				
693652	Amyl ether	X				
110587	Amylamines	X				
513359	Amylene	X		X	X	
	Amylenes, mixed	X		X	X	
62533	Aniline	X		X	X	
142041	Aniline hydrochloride	X				
90040	Anisidine (o-)	X				
100663	Anisole (methoxyl benzene)	X				
120127	Anthracene	X				
118923	Anthranilic acid	X				
84651	Anthraquinone -	X	X			X
25376458	ar-Methylbenzenediamine	X		X	X	
103333	Azobenzene	X				
543806	Barium acetate	X				
100527	Benzaldehyde -	X	X			X
55210	Benzamide	X				

71432	Benzene -	X	X	X	X	
98486	Benzenedisulfonic acid	X				
98113	Benzenesulfonic acid	X		X	X	
68081812	Benzenesulfonic acid C10-16-alkyl derivatives, sodium salts	X		X	X	
92875	Benzidine	X				
134816	Benzil	X				
76937	Benzillic acid	X				
91769	Benzoguanamine	X				
65850	Benzoic acid -	X	X	X		X
119539	Benzoin	X				
100470	Benzonitrile	X				
119619	Benzophenone	X				
98077	Benzotrichloride	X				
98884	Benzoyl chloride	X				
94360	Benzoyl peroxide	X				
140114	Benzyl acetate	X				
100516	Benzyl alcohol	X				
120514	Benzyl benzoate	X				
100447	Benzyl chloride	X		X	X	
98873	Benzyl dichloride	X				
100469	Benzylamine	X				
1896624	Benzylideneacetone	X				
92524	Biphenyl	X		X		
542881	Bis(Chloromethyl)Ether	X				
80057	Bisphenol A	X		X	X	
	Brometone	X		X	X	
108861	Bromobenzene	X				
75252	Bromoform	X		X		
27497514	Bromonaphthalene	X				

106990	Butadiene (1,3-) -	X	X	X	X	X
	Butadiene and butene fractions	X		X	X	
106978	Butane -	X	X	X	X	
110634	Butanediol (1,4-)	X		X	X	
	Butanes, mixed	X		X	X	
	Butenes, mixed	X		X	X	
123864	Butyl acetate (n-) (Acetic Acid, butyl ester)	X		X	X	
105464	Butyl acetate (sec-)	X				
540885	Butyl acetate (tert-)	X				
141322	Butyl acrylate (n-)	X		X	X	
71363	Butyl alcohol (n-)	X		X	X	
78922	Butyl alcohol (sec-)	X		X	X	
75650	Butyl alcohol (tert-)	X		X	X	
136607	Butyl benzoate	X				
507200	Butyl chloride (tert-)	X				
75912	Butyl hydroperoxide (tert-)	X		X	X	
109795	Butyl mercaptan (n-)	X				
97881	Butyl methacrylate (n-)	X				
585-07-9	Butyl methacrylate (tert-)	X				
88186	Butyl phenol (tert-)	X				
109739	Butylamine (n-)	X				
13952846	Butylamine (s-)	X				
75649	Butylamine (t-)	X				
98066	Butylbenzene (tert-)	X				
98737	Butylbenzoic acid (p-tert-) -	X	X			X
85867	Butylbenzyl phthalate	X		X	X	
107880	Butylene glycol (1,3-)			X		
123728	Butyraldehyde (n-)	X		X	X	
107926	Butyric acid (n-) -	X	X			X

106310	Butyric anhydride (n-)	X		X	X	
96480	Butyrolactone — must be Butyrolactone	X				
109740	Butyronitrile	X				
62544	Calcium acetate	X				
4075814	Calcium propionate	X				
142621	Caproic acid	X				
105602	Caprolactam	X		X	X	
63252	Carbaryl	X				
86748	Carbazole	X				
75150	Carbon disulfide	X		X	X	
558134	Carbon tetrabromide	X		X		
56235	Carbon tetrachloride	X		X	X	
75730	Carbon tetrafluoride	X				
75876	Chloral	X				
2435532	Chloranil (o-chloranil)	X				
79118	Chloroacetic acid	X			X	
532274	Chloroacetophenone (2-)	X				
108429	Chloroaniline (m-)	X				
95512	Chloroaniline (o-)	X				
106478	Chloroaniline (p-)	X				
89985	Chlorobenzaldehyde (2-)	X				
587042	Chlorobenzaldehyde (3-)	X				
104881	Chlorobenzaldehyde (4-)	X				
108907	Chlorobenzene	X		X	X	
118912	Chlorobenzoic acid (2-)	X				
535808	Chlorobenzoic acid (3-)	X				
74113	Chlorobenzoic acid (4-)	X				
2136892	Chlorobenzotrichloride (o-)	X				
5216251	Chlorobenzotrichloride (p-)	X				

609654	Chlorobenzoyl chloride (o-)	X				
122010	Chlorobenzoyl chloride (p-)	X				
25497294	Chlorodifluoroethane	X				
75456	Chlorodifluoromethane	X			X	
	Chlorofluorocarbons	X				
67663	Chloroform	X		X	X	
	Chlorohydrin	X				
25586430	Chloronaphthalene	X				
121733	Chloronitrobenzene (m-)	X				
88733	Chloronitrobenzene (o-)	X				
100005	Chloronitrobenzene (p-)	X		X	X	
108430	Chlorophenol (m-)	X				
95578	Chlorophenol (o-)	X				
106489	Chlorophenol (p-)	X				
126998	Chloroprene -	X				
7790945	Chlorosulfonic acid	X				
108418	Chlorotoluene (m-)	X				
95498	Chlorotoluene (o-)	X				
106434	Chlorotoluene (p-)	X				
79389	Chlorotrifluoroethylene	X				
67481	Choline chloride	X				
218019	Chrysene	X				
140103	Cinnamic acid	X				
77929	Citric acid	X		X	X	
	Cobalt acetate	X				
142712	Copper acetate	X				
108394	Cresol and cresylic acid (m-)	X				
95487	Cresol and cresylic acid (o-)	X				
106445	Cresol and cresylic acid (p-)	X				

1319773	Cresols and cresylic acids (mixed)	X				
4170300	Crotonaldehyde	X		X		
3724650	Crotonic acid -	X	X	X		X
98828	Cumene -	X	X	X	X	
80159	Cumene hydroperoxide -	X	X	X	X	X
420042	Cyanamide	X				
372098	Cyanoacetic acid	X				
	Cyanoformamide	X				
506774	Cyanogen chloride	X				
108805	Cyanuric acid	X				
108770	Cyanuric chloride	X		X	X	
110827	Cyclohexane -	X	X	X	X	
68512152	Cyclohexane, oxidized	X		X	X	
108930	Cyclohexanol -	X	X	X	X	X
108941	Cyclohexanone -	X	X	X	X	X
100641	Cyclohexanone oxime	X		X	X	
110838	Cyclohexene	X		X	X	
108918	Cyclohexylamine	X				
29965977	Cyclooctadiene	X				
3806595	Cyclooctadiene (1,3-)			X		
111784	Cyclooctadiene (1,5-)	X				
542-92-7	Cyclopentadiene (1,3-)	X				
75194	Cyclopropane	X		X	X	
91178	Decahydronaphthalene	X				
117828	Di(2-methoxyethyl) phthalate	X				
123422	Diacetone alcohol	X		X	X	
25260-60-0	Diacetoxy-2-Butene (1,4-)	X				
1087-21-4	Diallyl isophthalate	X				
131179	Diallyl phthalate	X				

27576041	Diaminobenzoic acids	X				
137097	Diaminophenol hydrochloride	X				
	Dibutanized aromatic concentrate	X		X		
17-83-9	Dibutoxyethyl phthalate	X				
760236	Dichloro-1-butene (3,4-)	X				
764410	Dichloro-2-butene (1,4-)	X				
27134276	Dichloroaniline (mixed isomers)	X				
541731	Dichlorobenzene (m-)	X				
95501	Dichlorobenzene (o-)	X				
106467	Dichlorobenzene (p-)	X				
91941	Dichlorobenzidine (3,3'-)	X				
75718	Dichlorodifluoromethane	X		X	X	
75785	Dichlorodimethylsilane	X		X	X	
107062	Dichloroethane (1,2-) (Ethylene dichloride) (EDC) -	X	X			
111444	Dichloroethyl ether (bis(2-chloroethyl) ether)	X				
540590	Dichloroethylene (1,2-)	X				
75434	Dichlorofluoromethane	X		X	X	
96231	Dichlorohydrin (a-)	X		X		
99-54-7	Dichloronitrobenzenes	X				
628-76-2	Dichloropentanes	X				
120832	Dichlorophenol (2,4-)	X				
78999	Dichloropropane (1,1-)	X				
542756	Dichloropropene (1,3-)	X				
	Dichloropropene/dichloropropane (mixed)	X				
1320372	Dichlorotetrafluoroethane	X				
461585	Dicyandiamide	X				
101837	Dicyclohexylamine	X				
77736	Dicyclopentadiene	X				

111422	Dietholamine (2,2'-Iminodiethanol)			X	X	
84662	Diethyl phthalate	X				
64675	Diethyl sulfate	X				
109897	Diethylamine	X				
579668	Diethylaniline (2,6-)	X				
91667	Diethylaniline (N,N-)	X				
25340174	Diethylbenzene	X		X	X	
111466	Diethylene glycol	X		X	X	
112732	Diethylene glycol dibutyl ether	X				
112367	Diethylene glycol diethyl ether	X				
111966	Diethylene glycol dimethyl ether	X				
112345	Diethylene glycol monobutyl ether	X				
124174	Diethylene glycol monobutyl ether acetate	X				
111900	Diethylene glycol monoethyl ether	X				
112152	Diethylene glycol monoethyl ether acetate	X				
111773	Diethylene glycol monomethyl ether	X				
629389	Diethylene glycol monomethyl ether acetate	X				
75379	Difluoroethane (1,1-)	X				
25167708	Diisobutylene	X				
26761400	Diisodecyl phthalate	X		X	X	
28553120	Diisononyl phthalate	X		X		
27554263	Diisooctyl phthalate	X				
108189	Diisopropylamine	X				
674828	Diketene (4-methylene-2-oxetanone) -	X	X			
115106	Dimethyl ether -	X	X			
131113	Dimethyl phthalate	X				
77781	Dimethyl sulfate	X				



75183	Dimethyl sulfide	X				
67685	Dimethyl sulfoxide	X				
120616	Dimethyl terephthalate -	X	X	X	X	X
127195	Dimethylacetamide (N,N-)	X				
124403	Dimethylamine	X		X		
108010	Dimethylaminoethanol (2-)	X				
121697	Dimethylaniline (N,N)	X				
119937	Dimethylbenzidine (3,3'-)	X				
68122	Dimethylformamide (N,N-)	X				
57147	Dimethylhydrazine (1,1-)	X				
526750	Dimethylphenol (2,3-) Xylenol (2,3-)	X				
105679	Dimethylphenol (2,4-) Xylenol (2,4-)	X				
95874	Dimethylphenol (2,5-) Xylenol (2,5-)	X				
576261	Dimethylphenol (2,6-) Xylenol (2,6-)	X		X		
95658	Dimethylphenol (3,4-) Xylenol (3,4-)	X				
108689	Dimethylphenol (3,5-) Xylenol (3,5-)	X				
25154545	Dinitrobenzenes (NOS)c	X				
99343	Dinitrobenzoic acid (3,5-)	X				
51285	Dinitrophenol (2,4-)	X				
602017	Dinitrotoluene (2,3-)	X				
121142	Dinitrotoluene (2,4-)	X		X	X	
606202	Dinitrotoluene (2,6-)	X		X	X	
610399	Dinitrotoluene (3,4-)	X				
117817	Di-o-lyththalate	X		X	X	
97392	Di-o-tolyguanidine	X				
123911	Dioxane (1,4-) (1,4- Diethyleneoxide)	X				
646060	Dioxolane (1,3-)	X				

101815	Diphenyl methane	X				
101848	Diphenyl oxide	X				
102089	Diphenyl thiourea (N,N'-)	X				
122394	Diphenylamine	X				
110985	Dipropylene glycol	X				
112414	Dodecene (branched)	X				
25378227	Dodecene (n-)	X		X	X	
123013	Dodecyl benzene (branched)	X			X	
121158585	Dodecyl phenol (branched)	X				
28675174	Dodecylaniline	X				
121013	Dodecylbenzene (n-)	X				
27176870	Dodecylbenzene sulfonic acid	X		X	X	
25155300	Dodecylbenzene sulfonic acid, sodium salt	X		X	X	
	Dodecylbenzene, nonlinear	X		X	X	
25103586	Dodecylmercaptan (branched)	X				
27193868	Dodecylphenol	X				
106898	Epichlorohydrin (1-chloro-2,3-epoxypropane)	X		X	X	
74840	Ethane -	X	X			
64175	Ethanol -	X	X	X	X	
141435	Ethanolamine (2-Aminoethanol)	X		X	X	
141786	Ethyl acetate (Acetic acid, ethyl ester)1 -	X	X	X	X	
141979	Ethyl acetoacetate	X				
140885	Ethyl acrylate	X		X	X	
74964	Ethyl bromide	X				
75003	Ethyl chloride (Chloroethane) -	X	X	X	X	
105395	Ethyl chloroacetate	X				
107120	Ethyl cyanide	X		X		
60297	Ethyl ether	X				

75081	Ethyl mercaptan (ethanethiol)	X				
122510	Ethyl orthoformate	X				
95921	Ethyl oxalate	X				
41892711	Ethyl sodium oxalacetate	X				
75047	Ethylamine	X				
103695	Ethylaniline (n-)	X				
578541	Ethylaniline (o-)	X				
100414	Ethylbenzene	X		X	X	
9004573	Ethylcellulose	X				
105566	Ethylcyanoacetate	X				
74851	Ethylene -	X	X	X	X	
96491	Ethylene carbonate	X				
107073	Ethylene chlorohydrin	X				
106934	Ethylene dibromide (Dibromoethane)	X		X	X	
107062	Ethylene dichloride -	X	X	X	X	X
107211	Ethylene glycol	X		X		
111557	Ethylene glycol diacetate	X				
112481	Ethylene glycol dibutyl ether	X				
629141	Ethylene glycol diethyl ether (1,2-diethoxyethane)	X				
110714	Ethylene glycol dimethyl ether	X				
542596	Ethylene glycol monoacetate	X				
111762	Ethylene glycol monobutyl ether	X		X	X	
112072	Ethylene glycol monobutyl ether acetate	X			X	
110805	Ethylene glycol monoethyl ether	X		X		
111159	Ethylene glycol monoethyl ether acetate	X		X	X	
109864	Ethylene glycol monomethyl ether	X		X	X	
110496	Ethylene glycol monomethyl ether acetate	X				

	Ethylene glycol monoethyl ether	X				
122996	Ethylene glycol monophenyl ether	X				
2807309	Ethylene glycol monopropyl ether	X				
75218	Ethylene oxide -	X	X	X	X	X
107153	Ethylenediamine	X				
60004	Ethylenediamine tetraacetic acid	X				
151564	Ethylenimine (Aziridine)	X				
149575	Ethylhexanoic acid (2-)	X				
103117	Ethylhexyl acrylate (2-isomer)	X				
	Ethylhexyl succinate (2-)	X				
25550145	Ethylmethylbenzene	X		X		
206440	Fluoranthene	X				
50000	Formaldehyde -	X	X	X	X	X
75127	Formamide	X				
64186	Formic acid -	X	X			X
110178	Fumaric acid	X				
111308	Glutaraldehyde	X				
367475	Glyceraldehyde	X				
56815	Glycerol	X		X	X	
26545737	Glycerol dichlorohydrin	X				
556525	Glycidol	X				
56406	Glycine	X				
	Glycol ethers	X				
107222	Glyoxal (ethane dial) -	X	X			X
	Guanidine	X				
506934	Guanidine nitrate	X				
592-76-7	Heptenes	X		X	X	
118741	Hexachlorobenzene	X				

87683	Hexachlorobutadiene	X				
77474	Hexachlorocyclopentadiene	X				
67721	Hexachloroethane	X				
36653824	Hexadecyl alcohol (1-hexadecanol)	X				
4860031	Hexadecyl chloride			X		
592450	Hexadiene (1,4-)	X				
3323533	Hexamethylene diamine adipate	X		X	X	
124094	Hexamethylenediamine	X		X	X	
100970	Hexamethylenetetramine	X		X	X	
110543	Hexane	X		X	X	
106694	Hexanetriol (1,2,6-)	X				
111273	Hexyl alcohol	X				
107415	Hexylene glycol	X				
	Higher glycols	X				
74908	Hydrogen cyanide -	X	X	X		X
123319	Hydroquinone	X				
141311	Hydroxyadipaldehyde	X				
99967	Hydroxybenzoic acid (p-)	X				
111422	Iminodiethanol (2,2-) (diethanolamine)	X				
123513	Isoamyl alcohol	X				
	Isoamyl chloride (mixed)	X				
26760645	Isoamylene	X				
75285	Isobutane	X		X	X	
78831	Isobutanol	X		X	X	
110190	Isobutyl acetate	X				
106638	Isobutyl acrylate	X				
97869	Isobutyl methacrylate	X				
109535	Isobutyl vinyl ether	X				

115117	Isobutylene	X		X	X	
78842	Isobutyraldehyde (2-methyl-propanal)	X		X	X	
79312	Isobutyric acid -	X	X			X
25339177	Isodecanol	X		X		
	Isohexyldecyl alcohol	X				
27458-94-2	Isononyl alcohol	X				
26952216	Isooctyl alcohol	X		X		
78784	Isopentane	X		X	X	
78591	Isophorone	X				
7027114	Isophorone nitrile	X				
121915	Isophthalic acid -	X	X	X		X
78795	Isoprene	X		X	X	
67630	Isopropanol	X		X	X	
108214	Isopropyl acetate	X				
75296	Isopropyl chloride	X				
108203	Isopropyl ether	X				
75310	Isopropylamine	X				
25168063	Isopropylphenol	X				
463514	Ketene	X		X	X	
79334	Lactic acid	X				
1643-20-5	Lauryl dimethylamine oxide	X				
6080564	Lead acetate	X				
17976-436-1	Lead phthalate	X				
1335326	Lead subacetate	X				
	Linear alcohols, ethoxylated and sulfated, sodium salt, mixed	X		X	X	
	Linear alcohols, ethoxylated, mixed	X		X	X	
	Linear alcohols, sulfated, sodium salt, mixed			X	X	

	Linear alkyl benzene (linear dodecylbenzene)	X				
142723	Magnesium acetate (Acetic acid, magnesium salt)	X		X		
110167	Maleic acid -	X	X			
108316	Maleic anhydride -	X	X	X	X	X
123331	Maleic hydrazide	X				
6915157	Malic acid	X				
108781	Melamine (1,3,5-triazine-2,4,6-triamine)	X		X		
1600277	Mercuric acetate	X				
141797	Mesityl oxide -	X	X	X	X	
121471	Metanilic acid	X				
79414	Methacrylic acid	X				
126987	Methacrylonitrile	X		X		
513428	Methallyl alcohol	X				
563473	Methallyl chloride	X				
74828	Methane -	X	X			
67561	Methanol -	X	X	X	X	
63683	Methionine	X				
79209	Methyl acetate -	X	X			
105453	Methyl acetoacetate	X				
96333	Methyl acrylate	X				
74839	Methyl bromide (Bromomethane)	X				
	Methyl butenols	X				
37365712	Methyl butynol	X				
74873	Methyl chloride (Chloromethane) -	X	X	X	X	
78933	Methyl ethyl ketone (2-butanone) -	X	X	X	X	X
107313	Methyl formate	X				
60344	Methyl hydrazine	X				

74884	Methyl iodide -	X	X	X		
108112	Methyl isobutyl carbinol	X				
108101	Methyl isobutyl ketone (Hexone)	X		X	X	
624839	Methyl isocyanate	X				
74931	Methyl mercaptan	X				
80626	Methyl methacrylate	X		X	X	
98851	Methyl phenyl carbinol	X				
119368	Methyl salicylate	X				
1634044	Methyl tert-butyl ether	X		X	X	
74895	Methylamine	X		X	X	
100618	Methylaniline (N-)	X				
910807	Methylbenzene (80/20 mixture) -	X				
137326	Methylbutanol (2-)	X				
108872	Methylcyclohexane	X				
25639423	Methylcyclohexanol	X				
1331222	Methylcyclohexanone	X				
75092	Methylene chloride (Dichloromethane)	X		X	X	
101779	Methylene dianiline (4,4')	X				
101688	Methylene diphenyl diisocyanate (4,4') (MDI)	X				
79696	Methylionones (a-)	X				
90120	Methylnaphthalene (1-)	X				
91576	Methylnaphthalene (2-)	X				
107835	Methylpentane (2-)	X		X		
77758	Methylpentynol	X				
98839	Methylstyrene (a-) -	X	X			X
110918	Morpholine	X				
91203	Naphthalene	X		X	X	
85472	Naphthalene sulfonic acid (a-)	X				



120183	Naphthalene sulfonic acid (b-)	X				
1338-24-5	Naphthenic acids	X				
90153	Naphthol (a-)	X				
135193	Naphthol (b-)	X				
567180	Naphtholsulfonic acid (1-)	X				
134327	Naphthylamine (1-)	X				
91598	Naphthylamine (2-)	X				
84866	Naphthylamine sulfonic acid (1,4-)	X				
81163	Naphthylamine sulfonic acid (2,1-)	X				
75832	Neohexane	X				
75989	Neopentanoic acid	X				
126307	Neopentyl glycol	X				
142825	n-Heptane	X		X	X	
3349-06-2	Nickel formate	X				
	Nitriloacetic acid	X				
99092	Nitroaniline (m-)	X				
88744	Nitroaniline (o-)	X				
100016	Nitroaniline (p-)	X				
91236	Nitroanisole (o-)	X				
100174	Nitroanisole (p-)	X				
98953	Nitrobenzene	X		X	X	
121926	Nitrobenzoic acid (m-)	X				
552169	Nitrobenzoic acid (o-)	X				
62237	Nitrobenzoic acid (p-)	X				
122-04-3	Nitrobenzoyl chloride (p-)	X				
79243	Nitroethane	X				
556887	Nitroguanidine	X				
75525	Nitromethane	X				

86577	Nitronaphthalene (1-)	X				
88755	Nitrophenol (o-)	X				
100027	Nitrophenol (p-)	X				
25322014	Nitropropane (1-)	X				
79469	Nitropropane (2-)	X				
1321126	Nitrotoluene (all isomers)	X				
99081	Nitrotoluene (m-)	X				
88722	Nitrotoluene (o-)	X				
99990	Nitrotoluene (p-)	X				
25168041	Nitroxylene	X				
27215958	Nonene	X		X	X	
1430808	Nonyl alcohol	X		X	X	
1081772	Nonylbenzene (branched)	X				
25154523	Nonylphenol	X		X	X	
25154523	Nonylphenol (branched)	X				
9016459	Nonylphenol, ethoxylated	X		X	X	
111659	Octane	X				
111660	Octene-1	X		X	X	
107459	Octylamine (tert-)	X				
27193288	Octylphenol	X				
	Oil-soluble petroleum sulfonate calcium salt	X		X	X	
	Oil-soluble petroleum sulfonate sodium salt	X		X		
144627	Oxalic acid	X				
471465	Oxamide	X				
	Oxo chemicals	X				
30525894	Paraformaldehyde	X				
123637	Paraldehyde	X				
87865	Pentachlorophenol	X				

78-11-5	Pentaerythritol tetranitrate	X				
109660	Pentane	X		X		
115775	Pentanethiol	X		X	X	
6032297	Pentanol (2-)	X				
584021	Pentanol (3-)	X				
109671	Pentene (1-)	X		X	X	
109682	Pentene (2-)	X				
79210	Peracetic acid	X				
594423	Perchloromethyl mercaptan	X				
62442	Phenacetin	X				
85018	Phenanthrene	X				
94702	Phenetidine (o-)	X				
156434	Phenetidine (p-)	X				
108952	Phenol -	X	X	X	X	X
77098	Phenolphthalein	X				
1333397	Phenolsulfonic acids (all isomers)	X				
91407	Phenyl anthranilic acid (all isomers)	X				
108452	Phenylenediamine (m-)	X				
95545	Phenylenediamine (o-)	X				
106503	Phenylenediamine (p-)	X				
89-25-8	Phenylmethylpyrazolone	X				
103651	Phenylpropane	X		X	X	
108736	Phloroglucinol (1,3,5-benzenetriol)	X				
75445	Phosgene	X		X	X	
88993	Phthalic acid	X				
85449	Phthalic anhydride -	X	X	X	X	X
85416	Phthalimide	X				
91156	Phthalonitrile	X				

109-06-8	Picoline (a-)	X				
108996	Picoline (b-)	X				
96-91-3	Picramic acid	X				
88891	Picric acid	X				
110850	Piperazine	X				
504609	Piperlyene	X				
25322683	Polyethylene glycol	X				
25322694	Polypropylene glycol	X				
127082	Potassium acetate	X				
74986	Propane -	X	X	X	X	
57578	Propiolactone (beta-) (2-Oxetanone)	X				
123386	Propionaldehyde	X		X	X	
79094	Propionic acid -	X	X	X		X
109604	Propyl acetate (n-)	X				
71238	Propyl alcohol (n-)	X		X	X	
540545	Propyl chloride	X				
107108	Propylamine	X				
115071	Propylene -	X	X	X	X	
127004	Propylene chlorohydrin	X		X		
57556	Propylene glycol	X		X	X	
107982	Propylene glycol monomethyl ether	X				
75569	Propylene oxide -	X	X	X	X	X
95636	Pseudocumene	X				
137-17-7	Pseudocumidine	X				
129000	Pyrene	X				
110861	Pyridine	X				
616455	Pyrrolidone (2-)	X				
106514	Quinone	X				

108463	Resorcinol (1,3-benzenediol)	X				
69727	Salicylic acid	X				
11206	Sebacic acid	X				
127093	Sodium acetate	X				
532321	Sodium benzoate	X				
3926623	Sodium chloroacetate	X				
143339	Sodium cyanide	X		X		
25155-30-0	Sodium dodecyl benzene sulfonate	X				
141537	Sodium formate	X				
124414	Sodium methoxide	X				
62760	Sodium oxalate	X				
139026	Sodium phenate	X				
137406	Sodium propionate	X				
110441	Sorbic acid	X				
50704	Sorbitol (D-Glucitol)	X		X	X	
588590	Stilbene	X				
100425	Styrene -	X	X	X	X	X
110156	Succinic acid	X				
110612	Succinonitrile	X				
121573	Sulfanilic acid	X				
126330	Sulfolane	X				
	Synthesis gas	X				
	Tallow acids, sodium salt Tetra (methyl-ethyl) plumbane	X				
526830	Tartaric acid	X				
100210	Terephthalic acid -	X	X	X	X	X
100209	Terephthaloyl chloride	X				
	Tetra (methyl-ethyl) lead	X		X	X	
632791	Tetrabromophthalic anhydride	X				

634-90-2	Tetrachlorobenzene (1,2,3,5-)	X				
95943	Tetrachlorobenzene (1,2,4,5-)	X				
79345	Tetrachloroethane (1,1,2,2-)	X		X		
127184	Tetrachloroethylene (Perchloroethylene)	X		X	X	
117088	Tetrachlorophthalic anhydride	X				
78002	Tetraethyl lead	X		X	X	
112607	Tetraethylene glycol	X				
112572	Tetraethylenepentamine	X				
116-14-3	Tetrafluoroethylene	X				
109999	Tetrahydrofuran	X		X	X	
119642	Tetrahydronaphthalene	X				
85438	Tetrahydrophthalic anhydride	X				
110601	Tetramethylenediamine	X				
110189	Tetramethylethylenediamine	X				
75741	Tetramethyllead	X		X	X	
62566	Thiourea	X				
108883	Toluene	X		X	X	
95807	Toluene diamine (2,4-)	X		X		
584849	Toluene diisocyanate (2,4-)	X				
26471627	Toluene diisocyanates (mixture)	X		X	X	
1333079	Toluene sulfonamides (o- and p-)	X				
104154	Toluene sulfonic acids	X				
584-84-9 (2,4-TDI) and 91-08-7 (2,6-TDI)	Toluene-2,4 (and 2,6)- diisocyanate (80/20) mixture			X		
98599	Toluenesulfonyl chloride	X				
95534	Toluidine (o-)	X				
76039	Trichloroacetic acid	X				

634935	Trichloroaniline (2,4,6-)	X				
87616	Trichlorobenzene (1,2,3-)	X				
120821	Trichlorobenzene (1,2,4-)	X				
108703	Trichlorobenzene (1,3,5-)	X				
71556	Trichloroethane (1,1,1-)	X		X	X	
79005	Trichloroethane (1,1,2-)	X		X	X	
79016	Trichloroethylene	X		X	X	
75694	Trichlorofluoromethane	X		X	X	
95954	Trichlorophenol (2,4,5-)	X				
96184	Trichloropropane (1,2,3-)	X				
1330785	Tricresyl phosphate	X				
112709	Tridecyl alcohol	X				
102716	Triethanolamine	X		X	X	
121448	Triethylamine	X				
112276	Triethylene glycol	X		X	X	
112492	Triethylene glycol dimethyl ether	X				
112505	Triethylene glycol monoethyl ether	X				
112356	Triethylene glycol monomethyl ether	X				
7756947	Triisobutylene	X				
552307	Trimellitic anhydride	X				
144194	Trimethyl-1,3-pentanediol (2,2,4-)	X				
16325636	Trimethyl-1-pentanol (2,4,4-)	X				
75503	Trimethylamine	X				
933482	Trimethylcyclohexanol	X				
2408379	Trimethylcyclohexanone	X				
34216347	Trimethylcyclohexylamine	X				
77996	Trimethylolpropane	X				
540841	Trimethylpentane (2,2,4-)	X				

24800440	Tripropylene glycol	X				
57136	Urea	X				
88120	Vinyl (N-)-pyrrolidone (2-)	X				
108054	Vinyl acetate (Acetic acid, ethenyl ester)	X		X	X	
75014	Vinyl chloride (Chloroethylene)	X		X	X	
25013154	Vinyl toluene	X				
100403	Vinylcyclohexene (4-)	X				
75354	Vinylidene chloride (1,1-dichloroethylene)	X		X	X	
140896	Xanthates	X				
108383	Xylene (m-)	X	X	X	X	
1330207	Xylene (NOS) <sup>c</sup>	X		X	X	
95476	Xylene (o-) -	X	X	X	X	
106423	Xylene (p-) -	X	X	X	X	
25321419	Xylene sulfonic acid	X				
1300716	Xylenols (Mixed)	X				
1300738	Xylidene (2,3-)	X				
1300738	Xylidene (2,4-)	X				
1300738	Xylidene (2,5-)	X				
1300738	Xylidene (2,6-)	X				
1300738	Xylidene (3,4-)	X				
1300738	Xylidene (3,5-)	X				
5970456	Zinc acetate	X				

<sup>a</sup>CAS Number = Chemical Abstract Service number.

<sup>b</sup>Isomer means all structural arrangements for the same number of atoms of each element and does not mean salts, esters or derivatives.