

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:

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ABS welding adhesive or acrylonitrile-butadiene-styrene welding adhesive -An adhesive intended by the manufacturer to weld acrylonitrile-butadiene-styrene (ABS) pipe, which is made by reacting monomers of acrylonitrile, butadiene and styrene.

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Adhesive—

(i) A chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means.

(ii) The term does not include coatings or finishing materials.

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Adhesive primer-[A]

(i) A product intended by the manufacturer for application to a substrate, prior to the application of an adhesive, to provide a bonding surface.

(ii) For purposes of § 129.73 (relating to aerospace manufacturing and rework), a coating applied to an aerospace vehicle or component that does one of the following:

[(i)] (A) Inhibits corrosion and serves as a primer when applied to bare metal or other surfaces prior to adhesive application.

[(ii)] (B) Is applied to surfaces that can be expected to contain fuel, with the exception of fuel tanks.

Aerosol adhesive-An adhesive packaged as an aerosol product in which the spray mechanism is permanently housed in a non-refillable can designed for handheld application without the need for ancillary hoses or spray equipment.

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Aerospace vehicle or component—

[A] **(i) For purposes of § 129.73, a fabricated part, processed part, assembly of parts or completed unit, with the exception of electronic components, of [any] an aircraft including [, but not limited to,] airplanes, helicopters, missiles, rockets and space vehicles.**

(ii) For purposes of § 129.77 (relating to control of emissions from the use or application of adhesives, sealants and primers) and Chapter 130, Subchapter D (relating to adhesives, sealants and primers), the fabricated part, assembly of parts or completed unit of an aircraft, helicopter, missile or space vehicle, including passenger safety equipment.

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Architectural sealant or primer-

(i) A sealant or sealant primer intended by the manufacturer to be applied to stationary architectural structures, including mobile homes, and their appurtenances.

(ii) Appurtenances to a stationary architectural structure include hand railings, cabinets, bathroom and kitchen fixtures, fences, rain gutters and downspouts, and windows.

As applied—

(i) The VOC and solids content of a coating, adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent or cleanup solvent that is actually used to coat the substrate.

(ii) The term includes the contribution of materials used for in-house dilution of the coating.

*As supplied—*The VOC and solids content of a coating, **adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent or cleanup solvent** as sold and delivered to the end user.

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Automotive glass adhesive primer-An adhesive primer labeled by the manufacturer to be applied to automotive glass prior to installation of the glass using an adhesive or sealant. This primer improves the adhesion to pinch weld and blocks ultraviolet light.

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CPVC plastic or chlorinated polyvinyl chloride plastic-A polymer of the vinyl chloride monomer that contains 67% chlorine and is normally identified with a CPVC marking.

CPVC welding adhesive or chlorinated polyvinyl chloride welding adhesive-An adhesive labeled for welding of chlorinated polyvinyl chloride plastic.

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Ceramic tile installation adhesive-An adhesive intended by the manufacturer for use in the installation of ceramic tiles.

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Cleanup solvent-A VOC-containing material used for either of the following:

(i) To remove a loosely held, uncured (that is, not dry to the touch) adhesive or sealant from a substrate.

(ii) To clean equipment used in applying a material.

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Computer diskette jacket manufacturing adhesive-An adhesive intended by the manufacturer to glue the fold-over flaps to the body of a vinyl computer diskette jacket.

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Contact bond adhesive-

(i) An adhesive that meets all of the following:

(A) Is designed for application to both surfaces to be bonded together.

(B) Is allowed to dry before the two surfaces are placed in contact with each other.

(C) Forms an immediate bond that is impossible, or difficult, to reposition after both adhesive-coated surfaces are placed in contact with each other.

(D) Does not need sustained pressure or clamping of surfaces after the adhesive-coated surfaces have been brought together using sufficient momentary pressure to establish full contact between both surfaces.

(ii) The term does not include the following:

(A) Rubber cements that are primarily intended for use on paper substrates.

(B) Vulcanizing fluids that are designed and labeled for tire repair only.

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Cove base-A flooring trim unit, generally made of vinyl or rubber, having a concave radius on one edge and a convex radius on the opposite edge that is used in forming a junction between the bottom wall course and the floor or to form an inside corner.

Cove base installation adhesive-An adhesive intended by the manufacturer to be used for the installation of cove base or wall base on a wall or vertical surface at floor level.

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Cyanoacrylate adhesive-

(i) For purposes of § 129.77 and Chapter 130, Subchapter D, an adhesive with a cyanoacrylate content of at least 95% by weight.

(ii) A fast-setting, single component adhesive that cures at room temperature.

(iii) The term is also known as “super glue.”

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Diluent-A diluting agent added to decrease the viscosity of a material.

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Drywall installation-The installation of gypsum drywall to studs or solid surfaces using an adhesive formulated for that purpose.

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Exempt compound or exempt solvent-Specified organic compounds that have been designated by the **Administrator of the** EPA as having negligible photochemical reactivity and are listed in 40 CFR 51.100 (relating to requirements for preparation, adoption and submittal of implementation plans).

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Fiberglass-For purposes of §§ 129.77 (relating to control of emissions from the use or application of adhesives, sealants, primers and solvents) and 130.702 (relating to emission standards), a material consisting of extremely fine glass fibers. (*Editor’s note:* A definition of this term was published for comment in the *Pennsylvania Bulletin* on April 19, 2008, in a proposed amendment to Chapter 129 (relating to standards for sources) concerning glass melting furnaces. The later of these two rulemakings to be published as a final rulemaking will include both definitions).

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Flexible vinyl-Non-rigid polyvinyl chloride plastic with at least 5% by weight plasticizer content.

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Indoor floor covering installation adhesive-

(i) An adhesive intended by the manufacturer for use in the installation of wood flooring, carpet, resilient tile, vinyl tile, vinyl backed carpet, resilient sheet and roll or artificial grass.

(ii) The term does not include adhesives used to install ceramic tile or perimeter bonded sheet flooring with vinyl backing onto a non-porous substrate like flexible vinyl.

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Laminate-A product made by bonding together two or more layers of material.

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Low-solids adhesive, sealant or primer-An adhesive, sealant, adhesive primer or sealant primer product that contains 120 grams or less of solids per liter of material.

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

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Medical equipment manufacturing-The manufacture of medical devices including catheters, heart valves, blood cardioplegia machines, tracheostomy tubes, blood oxygenators and cardiatory reservoirs.

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Metal to urethane/rubber molding or casting adhesive-An adhesive intended by the manufacturer to bond metal to high density or elastomeric urethane or molded rubber materials, in heater molding or casting processes, to fabricate products like rollers for computer printers or other paper handling equipment.

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Multipurpose construction adhesive-An adhesive intended by the manufacturer for use in the installation or repair of various construction materials, including drywall, subfloor, panel, fiberglass reinforced plastic (FRP), ceiling tile and acoustical tile.

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Nonmembrane roof installation/repair adhesive-

(i) An adhesive intended by the manufacturer for use in the installation or repair of nonmembrane roofs and that is not intended for the installation of prefabricated single-ply flexible roofing membrane.

(ii) The term includes:

(A) Plastic or asphalt roof cement.

(B) Asphalt roof coating.

(C) Cold application cement.

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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.

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PVC plastic or polyvinyl chloride plastic-A polymer of the chlorinated vinyl monomer that contains 57% chlorine.

PVC welding adhesive or polyvinyl chloride welding adhesive-An adhesive intended by the manufacturer for use in the welding of polyvinyl chloride (PVC) plastic pipe.

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Panel installation-The installation of plywood, pre-decorated hardboard or tileboard, fiberglass reinforced plastic and similar pre-decorated or nondecorated panels to studs or solid surfaces using an adhesive formulated for that purpose.

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Perimeter bonded sheet flooring installation-The installation of sheet flooring with vinyl backing onto a nonporous substrate using an adhesive designed to be applied only to a strip of up to four inches wide around the perimeter of the sheet flooring.

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Plastic cement welding adhesive-

(i) An adhesive intended by the manufacturer for use to dissolve the surface of plastic to form a bond between mating surfaces.

(ii) The term does not include the following welding adhesives:

(A) ABS.

(B) CPVC.

(C) PVC.

Plastic cement welding adhesive primer-A primer intended by the manufacturer for use to prepare plastic substrates prior to bonding or welding.

Plastic foam-Foam constructed of plastics.

Plasticizer-A material, like a high boiling point organic solvent, that is incorporated into a vinyl to increase its flexibility, workability or distensibility, as determined by ASTM Method E-260, including updates and revisions.

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.

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Porous material-A substance that has tiny openings, often microscopic, into or from which fluids may be absorbed or discharged, including wood, paper and corrugated paperboard.

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Propellant-A fluid under pressure that expels the contents of a container when a valve is opened.

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Reactive diluent-A liquid reactive organic compound in an uncured adhesive, sealant or primer that reacts chemically or physically during the curing process to become an integral part of a finished material.

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Roadway sealant-A sealant intended by the manufacturer for application to public streets, highways and other surfaces, including curbs, berms, driveways and parking lots.

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Rubber-A natural or manmade rubber substrate, including styrene-butadiene rubber, polychloroprene (neoprene) rubber, butyl rubber, nitrile rubber, chlorosulfonated polyethylene rubber and ethylene propylene diene terpolymer rubber.

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SCAOMD-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.

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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.

[(ii)] (B) There are two categories of sealants:

[(A)] (I) Extrudable/rollable/brushable sealants.

[(B)] (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 primer-A product intended by the manufacturer for application to a substrate, prior to the application of a sealant, to enhance the bonding surface.

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Sheet rubber installation-

(i) The process of applying sheet rubber liners by hand to metal or plastic substrates to protect the underlying substrate from corrosion or abrasion.

(ii) The term includes laminating sheet rubber to fabric by hand.

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Single-ply roof membrane-A prefabricated single sheet of rubber, normally ethylene propylene diene terpolymer, that is field applied to a building roof using one layer of membrane material.

Single-ply roof membrane adhesive primer-A primer labeled for use to clean and promote adhesion of the single-ply roof membrane seams or splices prior to bonding.

Single-ply roof membrane installation and repair adhesive-An adhesive labeled for use in the installation or repair of single-ply roof membrane. For purposes of this definition:

(i) Installation includes, as a minimum, attaching the edge of the membrane to the edge of the roof and applying flashings to vents, pipes and ducts that protrude through the membrane.

(ii) Repair includes gluing the edges of torn membrane together, attaching a patch over a hole and reapplying flashings to vents, pipes or ducts installed through the membrane.

Single-ply roof membrane sealant-A sealant labeled for application to single-ply roof membrane.

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Solvent- Organic compounds which are liquid at standard conditions and which are used as diluents, thinners, dissolvers, viscosity reducers, [or] cleaning agents or other related uses.

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Structural glazing adhesive-An adhesive intended by the manufacturer to apply glass, ceramic, metal, stone or composite panels to exterior building frames.

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Subfloor installation-The installation of subflooring material over floor joists, including the construction of load bearing joists. Subflooring material is covered by a finish surface material.

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Surface preparation solvent-A solvent used to remove dirt, oil and other contaminants from a substrate prior to the application of an adhesive, sealant, adhesive primer or sealant primer.

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Thin metal laminating adhesive-An adhesive intended by the manufacturer for use in bonding multiple layers of metal to metal or metal to plastic in the production of electronic or magnetic components in which the thickness of the bond line is less than 0.25 mils.

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Tire repair-A process that includes both of the following steps:

(i) Expanding a hole, tear, fissure or blemish in a tire casing by grinding or gouging.

(ii) Applying adhesive and filling the expanded hole, tear, fissure or blemish with rubber.

Tire tread adhesive-An adhesive intended by the manufacturer for one or both of the following applications:

(i) To the back of precure tread rubber and to the casing and cushion rubber.

(ii) To seal buffed tire casings to prevent oxidation while the tire is being prepared for a new tread.

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Traffic marking tape-Preformed reflective film intended by the manufacturer for application to public streets, highways and other surfaces, including curbs, berms, driveways and parking lots.

Traffic marking tape adhesive primer-A primer intended by the manufacturer for application to surfaces prior to installation of traffic marking tape.

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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.

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Waterproof resorcinol glue-A two-part resorcinol-resin-based adhesive designed for applications where the bond line must be resistant to conditions of continuous immersion in fresh or salt water.

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CHAPTER 129. STANDARDS FOR SOURCES

SOURCES OF VOCs

[Editor's note: Section 129.77 is new and printed in regular type to enhance readability.]

§ 129.77. Control of emissions from the use or application of adhesives, sealants, primers and solvents.

(a) This section applies to the owner or operator of a facility that uses or applies one or more of the following on or after April 15, 2010:

(1) An adhesive, sealant, adhesive primer or sealant primer subject to the emission standards in Table V.

(2) An adhesive or sealant product applied to the listed substrate subject to the emission standards in Table VI.

(3) A surface preparation solvent or cleanup solvent.

(b) On or after April 15, 2010, an owner or operator of a facility may not use or apply at the facility an adhesive, sealant, adhesive primer or sealant primer that exceeds the applicable VOC content limit in Table V or VI, except as provided elsewhere in this section.

(c) On or after April 15, 2010, an owner or operator of a facility may not use or apply at the facility a surface preparation or cleanup solvent that exceeds the applicable VOC content limit or composite vapor pressure requirements of this section, except as provided elsewhere in this section.

(d) The VOC content limits in Table VI for adhesives or sealants applied to particular substrates applies as follows:

(1) If an owner or operator uses an adhesive or sealant subject to a specific VOC content limit in Table V, the specific limit is applicable rather than the adhesive-to-substrate limit in Table VI.

(2) If an adhesive is used to bond dissimilar substrates together, the applicable substrate category with the highest VOC content is the limit for this use.

(e) An owner or operator subject to this section using a surface preparation solvent or cleanup solvent may not:

(1) Except as provided in paragraph (2) for single-ply roof membrane, use materials containing VOCs for surface preparation, unless the VOC content of the surface preparation solvent is less than 70 grams per liter of material or 0.6 pounds of VOC per gallon of material.

(2) Use materials containing VOCs for surface preparation or cleanup when applying single-ply roof membrane, unless the composite vapor pressure, excluding water and exempt compounds, of the surface preparation solvent or cleanup solvent is less than or equal to 45 mm mercury at 20°C.

(3) Except as provided in subsection (f), use cleanup solvent materials containing VOCs for the removal of adhesives, sealants, adhesive primers or sealant primers from surfaces, other than from the parts of spray application equipment, unless the composite vapor pressure of the solvent is less than or equal to 45 mm mercury at 20°C.

(f) Removal of an adhesive, sealant, adhesive primer or sealant primer from the parts of spray application equipment shall be performed by one or more of the following methods:

(1) Using an enclosed cleaning system, or an equivalent cleaning system as determined by the test method identified in subsection (z).

(2) Using a solvent with a VOC content less than or equal to 70 grams of VOC per liter of material or 0.6 pounds of VOC per gallon of material.

(3) Soaking parts containing dried adhesive in a solvent if the composite vapor pressure of the solvent, excluding water and exempt compounds, is less than or equal to 9.5 mm mercury at 20°C and the parts and solvent are in a closed container that remains closed except when adding parts to or removing parts from the container.

(g) An owner or operator using an adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent or cleanup solvent subject to the emission standard requirements of this section may comply with the requirements of this section through the use of add-on air pollution control equipment if all of the following requirements are met:

(1) The VOC emissions from the use of all noncomplying as applied adhesives, sealants, adhesive primers, sealant primers, surface preparation solvents and cleanup solvents subject to the emission standard requirements of this section are reduced by an overall efficiency of at least 85%, by weight.

(i) The capture efficiency of the system must be determined in accordance with the requirements of subsection (y)(1).

(ii) The control efficiency of the system must be determined in accordance with the requirements of subsection (y)(2).

(2) The combustion temperature is continuously monitored and recorded if a thermal incinerator is operated.

(3) Inlet and exhaust gas temperatures are continuously monitored and recorded if a catalytic incinerator is operated.

(4) Control device efficiency is monitored continuously if a carbon absorber or control device other than a thermal or catalytic incinerator is operated.

(5) Operation records sufficient to demonstrate compliance with the requirements of this section are maintained in accordance with subsections (p), (q) and (r).

(6) The control equipment is approved, in writing, by the Department in an operating permit.

(h) A person using an adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent or cleanup solvent subject to this section shall store or dispose of all absorbent materials, including cloth or paper, which are moistened with adhesives, sealants, primers, surface preparation solvents or cleanup solvents subject to this section, in non-absorbent containers that are kept closed except when placing materials in or removing materials from the container.

(i) A person may not solicit, require the use of or specify the application of an adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent or cleanup solvent if the use or application would result in a violation of this section. The prohibition of this subsection applies to all written or oral contracts under which an adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent or cleanup solvent subject to this section is to be used at a location in this Commonwealth.

(j) A person who applies or solicits the application of an adhesive, sealant, adhesive primer or sealant primer subject to this section may not add solvent to the adhesive, sealant, adhesive primer or sealant

primer in an amount in excess of the manufacturer's recommendation for application, if this addition causes the adhesive, sealant, adhesive primer or sealant primer to exceed the applicable VOC content limit listed in Table V or VI, unless the emissions are controlled through the use of add-on air pollution control equipment as specified in subsection (g).

(k) The requirements of this section do not apply to the use or application of the following compounds or products:

(1) Adhesives, sealants, adhesive primers or sealant primers being tested or evaluated in a research and development, quality assurance or analytical laboratory, if records are maintained as required in subsections (q) and (r).

(2) Adhesives, sealants, adhesive primers or sealant primers that are subject to §§ 129.51, 129.52, 129.67, 129.73, 129.75, 129.101-129.107 or Chapter 130, Subchapter B (relating to consumer products) or Subchapter C (relating to architectural and industrial maintenance coatings).

(3) Adhesives and sealants that contain less than 20 grams of VOC per liter of adhesive or sealant, less water and less exempt compounds, as applied.

(4) Cyanoacrylate adhesives.

(5) Adhesives, sealants, adhesive primers or sealant primers that are sold or supplied by the manufacturer or supplier in containers with a net volume of 16 fluid ounces or less, or a net weight of one pound or less, except plastic cement welding adhesives and contact adhesives.

(6) Contact adhesives that are sold or supplied by the manufacturer or supplier in containers with a net volume of one gallon or less.

(l) The requirements of this section do not apply to the use of adhesives, sealants, adhesive primers, sealant primers, surface preparation solvents or cleanup solvents in the following operations:

(1) Tire repair operations, if the label of the adhesive states, "For tire repair only."

(2) The assembly, repair and manufacture of aerospace components or undersea-based weapon systems.

(3) The manufacture of medical equipment.

(4) Plaque laminating operations in which adhesives are used to bond clear, polyester acetate laminate to wood with lamination equipment installed prior to July 1, 1992. An owner or operator claiming an exemption under this paragraph shall record and maintain operational records sufficient to demonstrate compliance with this exemption, in accordance with subsections (p), (q) and (r).

(m) The requirements of this section apply to the use or application of single-ply roof membrane installation or repair adhesive, single-ply roof membrane sealant and single-ply roof membrane adhesive primer on the following schedule:

(1) For the years 2010 and 2011, from April 15 through October 15.

(2) On and after January 1, 2012.

(n) The provisions of this section do not apply if the total VOC emissions from all adhesives, sealants, adhesive primers and sealant primers used at the facility are less than 200 pounds or an equivalent volume, per calendar year. An owner or operator claiming exemption under this subsection shall record and maintain operational records sufficient to demonstrate compliance with this exemption, in accordance with subsections (p), (q) and (r).

(o) The provisions of this section do not apply to the use of a noncomplying adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent or cleanup solvent if the total volume of noncomplying adhesives, sealants, primers, cleanup and surface preparation solvents applied facility-wide does not exceed 55 gallons per calendar year. An owner or operator claiming exemption under this paragraph shall record and maintain operational records sufficient to demonstrate compliance with this exemption, in accordance with subsections (p), (q) and (r).

(p) Except as provided in subsection (q), each owner or operator subject to this section shall maintain records demonstrating compliance with this section, including the following information:

(1) A list of each adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent and cleanup solvent product in use and in storage.

(2) A data sheet or material list which provides the product name, manufacturer identification and use or material application for each product included on the list required by paragraph (1).

(3) The VOC content of each product on the list required by paragraph (1), as supplied.

(4) Catalysts, reducers or other components used and the mix ratio.

(5) The VOC content or vapor pressure of each product on the list required by paragraph (1), as applied, if solvent or other VOC is added to the product before application.

(6) The volume used of each product on the list required by paragraph (1).

(q) For an adhesive, sealant, adhesive primer and sealant primer product subject to the laboratory testing exemption of subsection (k)(1), the person conducting the testing shall make and maintain records of all products used, including the following information:

(1) The product name.

(2) The product category of the material or type of application.

(3) The VOC content of the material.

(r) All records made to determine compliance with this section shall be:

(1) Maintained on site for at least 5 years from the date the record is created.

(2) Made available to the Department upon request.

(s) Except as provided in subsections (u), (v) and (w), the VOC and solids content of all nonaerosol adhesives, sealants, adhesive primers, sealant primers, surface preparation solvents and cleanup solvents shall be determined using one of the following:

(1) EPA Reference Method 24, *Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings*, found at 40 CFR 60, Subpart D, Appendix A, including updates and revisions.

(2) SCAQMD Method 304, *Determination of Volatile Organic Compounds (VOC) in Various Materials*, SCAQMD, 21865 Copley Drive, Diamond Bar, CA, 91765 USA, including updates and revisions.

(t) The identity and concentration of exempt organic compounds shall be determined using one of the following:

(1) ASTM D4457, *Standard Test Method for Determination of Dichloromethane and 1,1,1-Trichloroethane in Paints and Coatings by Direct Injection into a Gas Chromatograph*, ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA, 19428-2959 USA, including updates and revisions.

(2) SCAQMD Method 303, *Determination of Exempt Compounds*, SCAQMD, 21865 Copley Drive, Diamond Bar, CA, 91765 USA, including updates and revisions.

(u) The VOC content of a plastic cement welding adhesive or primer shall be determined using SCAQMD Method 316A, *Determination of Volatile Organic Compounds (VOC) in Materials Used for Pipes and Fittings*, SCAQMD, 21865 Copley Drive, Diamond Bar, CA, 91765 USA, including updates and revisions.

(v) To determine if a diluent is a reactive diluent, the percentage of the reactive organic compound that becomes an integral part of the finished materials shall be determined using SCAQMD Method 316A, *Determination of Volatile Organic Compounds (VOC) in Materials Used for Pipes and Fittings*, SCAQMD, 21865 Copley Drive, Diamond Bar, CA, 91765 USA, including updates and revisions.

(w) The composite vapor pressure of organic compounds in cleaning materials shall be determined by the following procedure:

(1) Quantifying the amount of each compound in the blend using gas chromatographic analysis, using the following methods:

(i) ASTM E260, *Standard Practice for Packed Column Gas Chromatography*, ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA, 19428-2959 USA, for organic content, including updates and revisions.

(ii) ASTM D3792, *Standard Test Method for Water Content of Coatings by Direct Injection Into a Gas Chromatograph*, ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA, 19428-2959 USA, for water content, including updates and revisions.

(2) Calculating the composite vapor pressure using the following equation:

$$Pp_c = \frac{\sum_{i=1}^n (W_i)(VP_i)/Mw_i}{W_w/Mw_w + \sum_{i=1}^n W_e/Mw_e + \sum_{i=1}^n W_i/Mw_i}$$

Where:

Pp_c = VOC composite partial pressure at 20°C, in mm mercury.

W_i = Weight of the "i"th VOC compound, in grams, as determined by ASTM E260.

W_w = Weight of water, in grams as determined by ASTM D3792.

W_e = Weight of the "i"th exempt compound, in grams, as determined by ASTM E260.

Mw_i = Molecular weight of the "i"th VOC compound, in grams per g-mole, as given in chemical reference literature.

Mw_w = Molecular weight of water, 18 grams per g-mole.

Mw_e = Molecular weight of the "i"th exempt compound, in grams per g-mole, as given in chemical reference literature.

VP_i = Vapor pressure of the "i"th VOC compound at 20°C, in mm mercury, as determined by subsection (x).

(x) The vapor pressure of each single component compound may be determined from one or more of the following:

(1) ASTM D2879, *Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope*, ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA, 19428-2959 USA, including updates and revisions.

(2) The most recent edition of one or more of the following sources:

(i) *Vapour Pressures of Pure Substances*, Boublik, Elsevier Scientific Publishing Company, New York.

(ii) *Perry's Chemical Engineers' Handbook*, Green and Perry, McGraw-Hill Book Company.

(iii) *CRC Handbook of Chemistry and Physics*, CRC Press.

(iv) *Lange's Handbook of Chemistry*, McGraw-Hill Book Company.

(v) Additional sources approved by the SCAQMD or other California air districts.

(y) If air pollution control equipment is used to meet the requirements of this section, the owner or operator shall make both of the following determinations:

(1) The measurement of capture efficiency shall be conducted and reported in accordance with the EPA Technical Document "*Guidelines for Determining Capture Efficiency*," issued January 9, 1995.

(2) The control efficiency shall be determined in accordance with one of the following:

(i) EPA Reference Method 25, *Determination of Total Gaseous Nonmethane Organic Emissions as Carbon*, found at 40 CFR 60, Subpart D, Appendix A, including updates and revisions.

(ii) EPA Reference Method 25A, *Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer*, found at 40 CFR 60, Subpart D, Appendix A, including updates and revisions.

(iii) EPA Reference Method 25B, *Determination of Total Gaseous Organic Concentration Using a Nondispersive Infrared Analyzer*, found at 40 CFR 60, Subpart D, Appendix A, including updates and revisions.

(iv) CARB Method 100, *Procedures for Continuous Gaseous Emission Stack Sampling*, California Air Resources Board, 1001 "I" Street, P.O. Box 2815, Sacramento, CA, 95812 USA, including updates and revisions.

(z) The active and passive solvent losses from the use of an enclosed spray gun cleaning system or equivalent cleaning system, as listed in subsection (f)(1), shall be determined using the SCAQMD method, *General Test Method for Determining Solvent Losses from Spray Gun Cleaning Systems*, dated October 3, 1989, SCAQMD, 21865 Copley Drive, Diamond Bar, CA, 91765 USA, including updates and revisions.

(1) The test solvent for this determination shall be a lacquer thinner with a minimum vapor pressure of 105 mm of mercury at 20°C.

(2) The minimum test temperature shall be 15°C.

(aa) For adhesive, sealant, adhesive primer or sealant primer products that do not contain reactive diluents, grams of VOC per liter of product thinned to the manufacturer's recommendation, less water and exempt compounds, shall be calculated according to the following equation:

$$\text{Grams of VOC per liter of product, as applied} = \frac{W_s - W_w - W_e}{V_m - V_w - V_e}$$

Where:

W_s = weight of volatile compounds, in grams.

W_w = weight of water, in grams.

W_e = weight of exempt compounds, in grams.

V_m = volume of material, in liters.

V_w = volume of water, in liters.

V_e = volume of exempt compounds, in liters.

(bb) For adhesive, sealant, adhesive primer or sealant primer products that contain reactive diluents, the VOC content of the product is determined after curing. The grams of VOC per liter of product thinned to the manufacturer's recommendation, less water and exempt compounds, shall be calculated according to the following equation:

$$\text{Grams of VOC per liter of product, as applied} = \frac{Wrs - Wrw - Wre}{Vrm - Vrw - Vre}$$

Where:

Wrs = weight of volatile compounds not consumed during curing, in grams.

Wrw = weight of water not consumed during curing, in grams.

Wre = weight of exempt compounds not consumed during curing, in grams.

Vrm = volume of material not consumed during curing, in liters.

Vrw = volume of water not consumed during curing, in liters.

Vre = volume of exempt compounds not consumed during curing, in liters.

(cc) For low-solids adhesive, sealant, adhesive primer or sealant primer products, grams of VOC per liter of product thinned to the manufacturer's recommendation, including the volume of water and exempt compounds, shall be calculated according to the following equation:

$$\text{Grams of VOC per liter of product, as applied} = \frac{Ws - Ww - We}{Vm}$$

Where:

Ws = weight of volatile compounds, in grams.

Ww = weight of water, in grams.

We = weight of exempt compounds, in grams.

Vm = volume of material, in liters.

(dd) Percent VOC by weight shall be calculated according to the following equation:

$$\% \text{ VOC by weight} = [(Wv / W)] \times 100$$

Where:

Wv = weight of VOCs in grams.

W = weight of material in grams.

(ee) To convert from grams per liter (g/l) to pounds per gallon (lb/gal), multiply the result (VOC content) by 8.345×10^{-3} (lb/gal/g/l).

Table V. VOC Content Limits for Adhesives, Sealants, Adhesive Primers and Sealant Primers, As Applied

Adhesive, sealant, adhesive primer or sealant primer category	VOC content limit (pounds VOC per gallon, less water and exempt compounds)*	VOC content limit (grams VOC per liter, less water and exempt compounds)*
<i>Adhesives</i>		
ABS welding	3.3	400
Ceramic tile installation	1.1	130
Computer diskette jacket manufacturing	7.1	850
Contact bond	2.1	250
Cove base installation	1.3	150
CPVC welding	4.1	490
Indoor floor covering installation	1.3	150
Metal to urethane/rubber molding or casting	7.1	850
Multipurpose construction	1.7	200
Nonmembrane roof installation/repair	2.5	300
Outdoor floor covering installation	2.1	250
Perimeter bonded sheet vinyl flooring installation	5.5	660
Plastic cement welding, other than ABS, CPVC or PVC welding	4.3	510
PVC welding	4.3	510
Sheet rubber installation	7.1	850
Single-ply roof membrane installation/repair	2.1	250
Structural glazing	0.8	100
Thin metal laminating	6.5	780
Tire retread	0.8	100
Waterproof resorcinol glue	1.4	170
<i>Sealants</i>		
Architectural	2.1	250
Marine deck	6.3	760
Nonmembrane roof installation/repair	2.5	300
Roadway	2.1	250
Single-ply roof membrane	3.8	450
Other	3.5	420
<i>Adhesive Primers</i>		
Automotive glass	5.8	700
Plastic cement welding	5.4	650
Single-ply roof membrane	2.1	250
Traffic marking tape	1.3	150
Other	2.1	250
<i>Sealant Primers</i>		
Marine deck	6.3	760
Non-porous architectural	2.1	250
Porous architectural	6.5	775
Other	6.3	750

* The VOC content is determined as the weight of VOC per volume of product, less water and exempt compounds, as specified in subsections (aa) and (bb) or as the weight of VOC per volume of product, as specified in subsection (cc).

Table VI. VOC Content Limits for Adhesive or Sealant Products Applied to Particular Substrates, As Applied

Adhesive or Sealant Products Applied to the Listed Substrate	VOC content limit (pounds VOC per gallon, less water and exempt compounds)*	VOC content limit (grams VOC per liter, less water and exempt compounds)*
Fiberglass	1.7	200
Flexible vinyl	2.1	250
Metal	0.3	30
Porous material	1.0	120
Rubber	2.1	250
Other substrates	2.1	250

* The VOC content is determined as the weight of VOC per volume of product, less water and exempt compounds, as specified in subsections (aa) and (bb) or as the weight of VOC per volume of product, as specified in subsection (cc).

CHAPTER 130. STANDARDS FOR PRODUCTS

[Editor's note: Subchapter D is new and printed in regular type to enhance readability.]

Subchapter D. Adhesives, Sealants, Primers and Solvents

GENERAL PROVISIONS

§ 130.701. Applicability.

(a) Except as provided in § 130.703 (relating to exemptions and exceptions), this subchapter applies to a person who, on or after April 15, 2010, sells, supplies, offers for sale or manufactures for sale for use in this Commonwealth one or more of the following products subject to the requirements of this subchapter:

- (1) An adhesive, sealant, adhesive primer or sealant primer product.
- (2) An adhesive or sealant product applied to particular substrates.
- (3) A surface preparation solvent or cleanup solvent product.

(b) Except as provided in § 130.703, this subchapter applies to a person who, on or after April 15, 2010, uses or applies for compensation within this Commonwealth one or more of the following products subject to the requirements of this subchapter:

- (1) An adhesive, sealant, adhesive primer or sealant primer product.
- (2) An adhesive or sealant product applied to particular substrates.
- (3) A surface preparation solvent or cleanup solvent product.

§ 130.702. Emission standards.

(a) Except as provided in § 130.703 (relating to exemptions and exceptions), on and after April 15, 2010, a person may not sell, supply, offer for sale or manufacture for sale for use in this Commonwealth one or more of the following products subject to the requirements of this subchapter:

(1) An adhesive, sealant, adhesive primer, or sealant primer product manufactured on or after April 15, 2010, which contains VOCs in excess of the applicable VOC content limits specified in Table I.

(2) An adhesive or sealant product manufactured on or after April 15, 2010, applied to particular substrates, which contains VOCs in excess of the applicable VOC content limits specified in Table II.

(b) Except as provided in § 130.703, on and after April 15, 2010, a person may not use or apply for compensation within this Commonwealth one or more of the following products subject to the requirements of this subchapter:

(1) An adhesive, sealant, adhesive primer or sealant primer product which contains VOCs in excess of the applicable VOC content limits specified in Table I.

(2) An adhesive or sealant product applied to particular substrates which contains VOCs in excess of the applicable VOC content limits specified in Table II.

(c) On and after April 15, 2010, the VOC content limits in Table II for adhesives or sealants applied to particular substrates apply as follows:

(1) If a person uses an adhesive or sealant subject to a specific VOC content limit in Table I, the specific limit is applicable rather than the adhesive-to-substrate limit in Table II.

(2) If an adhesive is used to bond dissimilar substrates together, the applicable substrate category with the highest VOC content is the limit for this use.

(d) On and after April 15, 2010, a person subject to this subchapter using a surface preparation solvent or cleanup solvent may not:

(1) Except as provided in paragraph (2) for single-ply roof membrane, use materials containing VOCs for surface preparation, unless the VOC content of the surface preparation solvent is less than 70 grams per liter of material or 0.6 pounds of VOC per gallon of material.

(2) If a surface preparation solvent is used in applying single-ply roof membrane, use materials containing VOCs for surface preparation, unless the composite vapor pressure, excluding water and exempt compounds, of the surface preparation solvent is less than or equal to 45 mm mercury at 20°C.

(3) Except as provided in subsection (e), use materials containing VOCs for the removal of adhesives, sealants or adhesive or sealant primers from surfaces, other than from the parts of spray application equipment, unless the composite vapor pressure of the solvent used is less than or equal to 45 mm mercury at 20°C.

(e) On and after April 15, 2010, the removal of an adhesive, sealant, adhesive primer or sealant primer from the parts of spray application equipment shall be performed by one or more of the following methods:

(1) Using an enclosed cleaning system or equivalent cleaning system, as determined by the test method identified in § 130.705(g) (relating to compliance procedures and test methods).

(2) Using a solvent with a VOC content less than or equal to 70 grams of VOC per liter of material or 0.6 pounds of VOC per gallon of material.

(3) Soaking parts containing dried adhesive in a solvent if the composite vapor pressure of the solvent, excluding water and exempt compounds, is less than or equal to 9.5 mm mercury at 20°C and the parts and solvent are in a closed container that remains closed except when adding parts to or removing parts from the container.

(f) On and after April 15, 2010, a person using adhesives, sealants, adhesive primers, sealant primers, surface preparation solvents or cleanup solvents subject to this subchapter shall store or dispose of all absorbent materials, including cloth or paper, which are moistened with adhesives, sealants, primers or solvents subject to this subchapter, in non-absorbent containers that is kept closed except when placing materials in or removing materials from the container.

(g) On and after April 15, 2010, a person may not solicit, require the use of or specify the application of an adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent or cleanup solvent if the use or application would result in a violation of this subchapter. The prohibition of this subsection apply to all written or oral contracts under which an adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent or cleanup solvent subject to this subchapter is to be used at a location in this Commonwealth.

(h) On and after April 15, 2010, a person who applies or solicits the application of an adhesive, sealant, adhesive primer or sealant primer subject to the requirements of this section may not add solvent to the adhesive, sealant, adhesive primer or sealant primer in an amount in excess of the manufacturer's recommendation for application, if this addition causes the adhesive, sealant, adhesive primer or sealant primer to exceed the applicable VOC content limit listed in Table I or II.

Table I. VOC Content Limits for Adhesives, Sealants, Adhesive Primers and Sealant Primers, As Applied

Adhesive, sealant, adhesive primer or sealant primer category	VOC content limit (pounds VOC per gallon, less water and exempt compounds)*	VOC content limit (grams VOC per liter, less water and exempt compounds)*
<i>Adhesives</i>		
ABS welding	3.3	400
Ceramic tile installation	1.1	130
Computer diskette jacket manufacturing	7.1	850
Contact bond	2.1	250
Cove base installation	1.3	150
CPVC welding	4.1	490
Indoor floor covering installation	1.3	150
Metal to urethane/rubber molding or casting	7.1	850
Multipurpose construction	1.7	200
Nonmembrane roof installation/repair	2.5	300
Outdoor floor covering installation	2.1	250
Perimeter bonded sheet vinyl flooring installation	5.5	660
Plastic cement welding, other than ABS, CPVC or PVC welding	4.3	510
PVC welding	4.3	510
Sheet rubber installation	7.1	850
Single-ply roof membrane installation/repair	2.1	250
Structural glazing	0.8	100
Thin metal laminating	6.5	780
Tire retread	0.8	100
Waterproof resorcinol glue	1.4	170
<i>Sealants</i>		
Architectural	2.1	250
Marine deck	6.3	760
Nonmembrane roof installation/repair	2.5	300
Roadway	2.1	250
Single-ply roof membrane	3.7	450
Other	3.5	420
<i>Adhesive Primers</i>		
Automotive glass	5.8	700
Plastic cement welding	5.4	650
Single-ply roof membrane	2.1	250
Traffic marking tape	1.3	150
Other	2.1	250
<i>Sealant Primers</i>		
Marine deck	6.3	760
Non-porous architectural	2.1	250
Porous architectural	6.5	775
Other	6.3	760

* The VOC content is determined as the weight of VOC per volume of product, less water and exempt compounds, as specified in § 130.705(h) and (i) or as the weight of VOC per volume of product, as specified in § 130.705(j).

Table II. VOC Content Limits for Adhesive or Sealant Products Applied to Particular Substrates, As Applied

Adhesive or Sealant Products Applied to the Listed Substrate	VOC content limit (pounds VOC per gallon, less water and exempt compounds)*	VOC content limit (grams VOC per liter, less water and exempt compounds)*
Fiberglass	1.7	200
Flexible vinyl	2.1	250
Metal	0.3	30
Porous material	1.0	120
Rubber	2.1	250
Other substrates	2.1	250

* The VOC content is determined as the weight of VOC per volume of product, less water and exempt compounds, as specified in § 130.705(h) and (i) or as the weight of VOC per volume of product, as specified in § 130.705(j).

§ 130.703. Exemptions and exceptions.

(a) The requirements of this subchapter do not apply to the use or sale of the following compounds or products:

(1) Adhesives, sealants, adhesive primers or sealant primers being tested or evaluated in a research and development, quality assurance or analytical laboratory, if records are maintained as required in § 130.704 (relating to recordkeeping requirements).

(2) Adhesives, sealants, adhesive primers or sealant primers that are subject to §§ 129.51, 129.52, 129.67, 129.73, 129.75, 129.101-129.107 or Chapter 130, Subchapter B (relating to consumer products) or Subchapter C (relating to architectural and industrial maintenance coatings).

(3) Adhesives and sealants that contain less than 20 grams of VOC per liter of adhesive or sealant, less water and less exempt compounds, as applied.

(4) Cyanoacrylate adhesives.

(5) Adhesives, sealants, adhesive primers or sealant primers that are sold or supplied by the manufacturer or supplier in containers with a net volume of 16 fluid ounces or less, or a net weight of one pound or less, except plastic cement welding adhesives and contact adhesives.

(6) Contact adhesives that are sold or supplied by the manufacturer or supplier in containers with a net volume of one gallon or less.

(b) The requirements of this subchapter do not apply to the use of adhesives, sealants, adhesive primers, sealant primers, surface preparation solvents or cleanup solvents in the following operations:

(1) Tire repair operations, if the label of the adhesive states, "For tire repair only."

(2) The assembly, repair and manufacture of aerospace components or undersea-based weapons systems.

(3) The manufacture of medical equipment.

(4) Plaque laminating operations in which adhesives are used to bond clear, polyester acetate laminate to wood with lamination equipment installed prior to July 1, 1992. A person claiming an exemption under this paragraph shall record and maintain operational records sufficient to demonstrate compliance with this exemption, in accordance with § 130.704.

(c) The requirements of this subchapter do not apply to the use or application of single-ply roof membrane installation or repair adhesive, single-ply roof membrane sealant and single-ply roof membrane adhesive primer prior to April 15, 2010. The requirements of this subchapter apply to the use and application of these products on the following schedule:

(1) For the years 2010 and 2011, from April 15 through October 15.

(2) On and after January 1, 2012.

(d) The requirements of this subchapter do not apply to the sale, supply, offer for sale or manufacture for sale of a single-ply roof membrane installation or repair adhesive, single-ply roof membrane sealant or single-ply roof membrane adhesive primer prior to January 1, 2012.

(e) The provisions of § 130.702(a)-(e) (relating to emission standards) do not apply if the total VOC emissions from all adhesives, sealants, adhesive primers and sealant primers used at the facility are less than 200 pounds or an equivalent volume, per calendar year. A person claiming exemption under this paragraph shall record and maintain operational records sufficient to demonstrate compliance with this exemption, in accordance with § 130.704.

(f) The provisions of § 130.702(a)-(e) do not apply to the use of a noncomplying adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent or cleanup solvent if the total volume of noncomplying adhesives, sealants, primers, surface preparation solvents and cleanup solvents applied facility-wide does not exceed 55 gallons per calendar year. A person claiming exemption under this paragraph shall record and maintain operational records sufficient to demonstrate compliance with this exemption, in accordance with § 130.704.

(g) The requirements of this subchapter do not apply to an adhesive, sealant, adhesive primer or sealant primer product that does not comply with § 130.702 if the manufacturer or distributor of the noncomplying product makes and keeps records demonstrating both of the following:

(1) The noncomplying adhesive, sealant, adhesive primer or sealant primer product is intended for shipment and use outside of this Commonwealth.

(2) The manufacturer or distributor has taken reasonably prudent precautions to assure that the noncomplying adhesive, sealant, adhesive primer or sealant primer product is not distributed to or within this Commonwealth.

(h) The exemption in subsection (g) does not apply to an adhesive, sealant, adhesive primer or sealant primer product that is sold, supplied or offered for sale by a person to a retail outlet in this Commonwealth.

(i) The requirements of this subchapter do not apply to an adhesive, sealant, adhesive primer or sealant primer product that is sold or supplied for use or application at a facility subject to the requirements of § 129.77 (relating to control of emissions from the use or application of adhesives, sealants and primers).

(j) The provisions of §§ 130.704 and 130.705 (relating to compliance procedures and test methods) do not apply to the use of an adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent or cleanup solvent at a private residence for a non-commercial purpose.

§ 130.704. Recordkeeping requirements.

(a) On and after April 15, 2010, a person who sells, supplies, offers for sale or manufactures for sale for use in this Commonwealth an adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent or cleanup solvent product subject to this subchapter shall maintain records demonstrating compliance with this subchapter, including the following information:

(1) A data sheet or material list which provides the material name, manufacturer identification and material application for each product.

(2) The VOC content of each product, as supplied.

(3) The number of gallons of product sold in this Commonwealth.

(b) On and after April 15, 2010, a person who uses or applies an adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent or cleanup solvent product subject to this subchapter shall maintain records demonstrating compliance with this subchapter, including the following information:

(1) A list of each adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent and cleanup solvent product in use and in storage.

(2) A data sheet or material list which provides the product name, manufacturer identification and use or material application for each product included on the list required by paragraph (1).

(3) The VOC content of each product on the list required by paragraph (1), as supplied.

(4) Catalysts, reducers or other components used and the mix ratio.

(5) The VOC content or vapor pressure of each product on the list required by paragraph (1), as applied, if solvent or other VOC is added to the product before application.

(6) The volume used of each product on the list required by paragraph (1).

(c) For an adhesive, sealant, adhesive primer and sealant primer product subject to the laboratory testing exemption of § 130.703(a)(1) (relating to exemptions and exceptions), on and after April 15,

2010, the person conducting the testing shall make and maintain records of all materials used, including the following information:

- (1) The product name.
- (2) The product category of the material or type of application.
- (3) The VOC content of the material.
- (d) All records made to determine compliance with this subchapter shall be:
 - (1) Maintained for at least 5 years from the date the record is created.
 - (2) Made available to the Department upon request.

§ 130.705. Compliance procedures and test methods.

(a) Except as provided in subsections (c), (d) and (e), the VOC and solids content of all nonaerosol adhesives, sealants, adhesive primers, sealant primers, surface preparation solvents and cleanup solvents shall be determined using one of the following:

(1) EPA Reference Method 24, *Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings*, found at 40 CFR 60, Subpart D, Appendix A, including updates and revisions.

(2) SCAQMD Method 304, *Determination of Volatile Organic Compounds (VOC) in Various Materials*, SCAQMD, 21865 Copley Drive, Diamond Bar, CA, 91765 USA, including updates and revisions.

(b) The identity and concentration of exempt organic compounds shall be determined using one of the following:

(1) ASTM D4457, *Standard Test Method for Determination of Dichloromethane and 1,1,1-Trichloroethane in Paints and Coatings by Direct Injection into a Gas Chromatograph*, ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA, 19428-2959 USA, including updates and revisions.

(2) SCAQMD Method 303, *Determination of Exempt Compounds*, SCAQMD, 21865 Copley Drive, Diamond Bar, CA, 91765 USA, including updates and revisions.

(c) The VOC content of a plastic cement welding adhesive or primer shall be determined using SCAQMD Method 316A, *Determination of Volatile Organic Compounds (VOC) in Materials Used for Pipes and Fittings*, SCAQMD, 21865 Copley Drive, Diamond Bar, CA, 91765 USA, including updates and revisions.

(d) To determine if a diluent is a reactive diluent, the percentage of the reactive organic compound that becomes an integral part of the finished materials shall be determined using SCAQMD Method

316A, *Determination of Volatile Organic Compounds (VOC) in Materials Used for Pipes and Fittings*, SCAQMD, 21865 Copley Drive, Diamond Bar, CA, 91765 USA, including updates and revisions.

(e) The composite vapor pressure of organic compounds in cleaning materials shall be determined by the following procedure:

(1) Quantifying the amount of each compound in the blend using gas chromatographic analysis, using the following methods:

(i) ASTM E260, *Standard Practice for Packed Column Gas Chromatography*, ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA, 19428-2959 USA, for organic content, including updates and revisions.

(ii) ASTM D3792, *Standard Test Method for Water Content of Coatings by Direct Injection Into a Gas Chromatograph*, ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA, 19428-2959 USA, for water content, including updates and revisions.

(2) Calculating the composite vapor pressure using the following equation:

$$Pp_c = \frac{\sum_{i=1}^n (W_i)(VP_i)/Mw_i}{W_w/Mw_w + \sum_{i=1}^n W_e/Mw_e + \sum_{i=1}^n W_i/Mw_i}$$

Where:

Pp_c = VOC composite partial pressure at 20 C, in mm Hg.

W_i = Weight of the "i"th VOC compound, in grams, as determined by ASTM E260.

W_w = Weight of water, in grams as determined by ASTM D3792.

W_e = Weight of the "i"th exempt compound, in grams, as determined by ASTM E260.

Mw_i = Molecular weight of the "i"th VOC compound, in grams per g-mole, as given in chemical reference literature.

Mw_w = Molecular weight of water, 18 grams per g-mole.

Mw_e = Molecular weight of the "i"th exempt compound, in grams per g-mole, as given in chemical reference literature.

VP_i = Vapor pressure of the "i"th VOC compound at 20°C, in mm mercury, as determined by subsection (f).

(f) The vapor pressure of each single component compound may be determined from one or more of the following:

(1) ASTM D2879, *Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope*, ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA, 19428-2959 USA, including updates and revisions.

(2) The most recent edition of one or more of the following sources:

(i) *Vapour Pressures of Pure Substances*, Boublik, Elsevier Scientific Publishing Company, New York.

(ii) *Perry's Chemical Engineers' Handbook*, Green and Perry, McGraw-Hill Book Company.

(iii) *CRC Handbook of Chemistry and Physics*, CRC Press.

(iv) *Lange's Handbook of Chemistry*, McGraw-Hill Book Company.

(v) Additional sources approved by the SCAQMD or other California air districts.

(g) The active and passive solvent losses from the use of an enclosed spray gun cleaning system or equivalent cleaning system, as listed in § 130.702(e)(1) (relating to emission standards), shall be determined using the SCAQMD method, *General Test Method for Determining Solvent Losses from Spray Gun Cleaning Systems*, dated October 3, 1989, SCAQMD, 21865 Copley Drive, Diamond Bar, CA, 91765 USA, including updates and revisions.

(1) The test solvent for this determination shall be a lacquer thinner with a minimum vapor pressure of 105 mm of mercury at 20°C.

(2) The minimum test temperature shall be 15°C.

(h) For adhesive, sealant or primer products that do not contain reactive diluents, grams of VOC per liter of product thinned to the manufacturer's recommendation, less water and exempt compounds, shall be calculated according to the following equation:

$$\text{Grams of VOC per liter of product, as applied} = \frac{W_s - W_w - W_e}{V_m - V_w - V_e}$$

Where:

W_s = weight of volatile compounds, in grams.

W_w = weight of water, in grams.

W_e = weight of exempt compounds, in grams.

V_m = volume of material, in liters.

V_w = volume of water, in liters.

V_e = volume of exempt compounds, in liters.

(i) For adhesive, sealant or primer products that contain reactive diluents, the VOC content of the product is determined after curing. The grams of VOC per liter of product thinned to the manufacturer's recommendation, less water and exempt compounds, shall be calculated according to the following equation:

$$\text{Grams of VOC per liter of product, as applied} = \frac{W_{rs} - W_{rw} - W_{re}}{V_{rm} - V_{rw} - V_{re}}$$

Where:

W_{rs} = weight of volatile compounds not consumed during curing, in grams.

W_{rw} = weight of water not consumed during curing, in grams.
 W_{re} = weight of exempt compounds not consumed during curing, in grams.
 V_{rm} = volume of material not consumed during curing, in liters.
 V_{rw} = volume of water not consumed during curing, in liters.
 V_{re} = volume of exempt compounds not consumed during curing, in liters.

(j) For low-solids adhesive, sealant or primer products, grams of VOC per liter of product thinned to the manufacturer's recommendation, including water and exempt compounds, shall be calculated according to the following equation:

$$\text{Grams of VOC per liter of product, as applied} = \frac{W_s - W_w - W_e}{V_m}$$

Where:

W_s = weight of volatile compounds, in grams.
 W_w = weight of water, in grams.
 W_e = weight of exempt compounds, in grams.
 V_m = volume of material, in liters.

(k) Percent VOC by weight shall be calculated according to the following equation:

$$\% \text{ VOC by weight} = [(W_v / W)] \times 100$$

Where:

W_v = weight of VOCs in grams.
 W = weight of material in grams.

(l) To convert from grams per liter (g/l) to pounds per gallon (lb/gal), multiply the result (VOC content) by 8.345×10^{-3} (lb/gal/g/l).

§ 130.706. Container labeling.

On and after April 15, 2010, each manufacturer of an adhesive, sealant, adhesive primer or sealant primer product subject to this subchapter shall display the following information on the product container or label:

(1) A statement of the manufacturer's recommendation regarding thinning, reducing or mixing of the product, except that:

(i) This requirement does not apply to the thinning of a product with water.

(ii) If thinning of the product prior to use is not necessary, the recommendation must specify that the product is to be applied without thinning.

(2) The maximum or the actual VOC content of the product as supplied, displayed as one of the following:

(i) Weight of VOC per volume of product, less water and exempt compounds, calculated in accordance with the requirements of § 130.705(h) and (i) (relating to compliance procedures and test methods).

(ii) Weight of VOC per volume of product, calculated in accordance with the requirements of § 130.705(j).

(3) The maximum or the actual VOC content of the product as applied, which includes the manufacturer's maximum recommendation for thinning, displayed as one of the following:

(i) Weight of VOC per volume of product, less water and exempt compounds, calculated in accordance with the requirements of § 130.705(h) and (i).

(ii) Weight of VOC per volume of product, calculated in accordance with the requirements of § 130.705(j).