

RULE 353 ADHESIVES AND SEALANTS. (Adopted 8/19/1999, revised 06/21/2012)

A. Applicability

This rule is applicable to any person who supplies, sells, offers for sale, distributes, manufactures, solicits the application of, or uses any adhesive product, sealant product, or associated solvent for use within the District.

B. Exemptions

1. This rule shall not apply to adhesives and associated solvents used in tire repair operations, provided a label on the adhesive used states "For Tire Repair Only."
2. This rule shall not apply to adhesives and associated solvents used in the assembly and manufacturing of undersea-based weapon systems.
3. Provisions of Sections D, E, G.1, and H, shall not apply to any adhesive products, sealant products, and any associated solvent used in any laboratory tests or analyses, including quality assurance or quality control applications, bench scale projects, or short-term (less than 2 years) research and development projects. To qualify for this exemption, the following records shall be maintained:
 - a. A list of all such materials used, which at a minimum includes the manufacturer's identification, the product category of the material or type of application, and the reactive organic compound content of each material.
 - b. For each short-term research and development project, the project description, date it commenced, and date it concluded.
 - c. Such records shall be retained in accordance with the provisions of Section O.6.
4. This rule shall not apply to solvent welding operations and associated cleaning solvents used in the manufacturing of medical devices, such as, but not limited to, catheters, heart valves, blood cardioplegia machines, tracheotomy tubes, blood oxygenators, and cardiatory reservoirs.
5. This rule shall not apply to adhesive product and sealant product coating operations and associated solvent use that are subject to any of the following District rules.
 - a. Rule 337, Surface Coating of Aerospace Vehicles and Components.
 - b. Rule 354, Graphic Arts.
6. This rule shall not apply to adhesive products and sealant products that contain less than 20 grams of reactive organic compound per liter (0.17 pounds of reactive organic compound per gallon) of adhesive or sealant, less water and less exempt compounds, as applied.
7. Except for Section J, the rule shall not apply to cyanoacrylate adhesives.
8. Except as otherwise specified in Section B.10.c, this rule shall not apply to adhesive products and sealant products, which are sold or supplied by the manufacturer or suppliers in containers of 16 fluid ounces or less.
9. Except for Sections J, K, L, M, O.3, and O.6, this rule shall not apply to any stationary source that has total reactive organic compound emissions less than 200 pounds per calendar year from adhesive products sealant products, associated solvents, and strippers. Associated solvents and

strippers used for operations that are exempt per Sections B.1 - B.4, B.11, and B.13 shall not be included in calculating the total reactive organic compound emissions under this exemption. Any person claiming this exemption shall record and maintain operational and emission records that document compliance. At a minimum, when using compliant materials, the records shall be kept on a monthly basis; and when using noncompliant materials, the records shall be kept on a daily basis. All records kept to substantiate the exemption claim shall be retained in accordance with the provisions of Section O.6.

10. The sales prohibition in Sections K.1 and K.2 of this rule shall not apply to:
 - a. Any supplier or seller of any adhesive product (including aerosol adhesive), or sealant product where the supplier or seller:
 - 1) Ships the product outside of Santa Barbara County for use outside of Santa Barbara County.
 - 2) Provides product to a user who has installed a District permitted reactive organic compound add-on control device.
 - b. Any manufacturer of any adhesive product (including aerosol adhesive) or sealant product if the manufacturer has provided the maximum volatile organic compound content per Section L and if:
 - 1) The product was not sold directly to a user or a sales outlet located in Santa Barbara County, or
 - 2) The product was sold to an independent distributor that is not a subsidiary of, or under the direct control of, the manufacturer.
 - c. The sale of any adhesive product (including aerosol adhesive) or sealant product, except plastic cement welding adhesives, if:
 - 1) The product is sold in any container(s) having a capacity of 16 fluid ounces or less (net volume) or one pound or less (net weight); and
 - 2) The total net weight or volume of two or more containers packaged together must be equal to or less than one pound or 16 fluid ounces, respectively, to qualify for this exemption.
11. This rule shall not apply to any cleaning performed with a solvent (including emulsions) that contains two percent by weight or less of each of the following:
 - a. Reactive organic compounds, and
 - b. Toxic air contaminants (as determined by generic solvent data, solvent manufacturer's composition data or by a gas chromatography test and a mass spectrometry test).
 - c. Any person claiming this exemption shall maintain the records specified in Sections O.1.a and O.1.f in a manner consistent with Section O.6 and make them available for review.
12. This rule shall not apply to adhesive products (including aerosol adhesives) and sealant products subject to the Air Resources Board consumer products regulation found in Title 17 of the California Code of Regulations, section 94507 et seq.

13. Provisions of Sections G.1, H, and R shall not apply to solvents and strippers used on any of the following:
- a. Cotton swabs when removing cottonseed oil before the cleaning of high-precision optics;
 - b. Paper gaskets;
 - c. Clutch assemblies where rubber is bonded to metal by means of an adhesive;
 - d. Cleaning of semiconductor and microelectromechanical devices undergoing manufacturing processes involving thin film deposition, vacuum deposition, dry etching, or metal lift-off operations; including any maintenance activities associated with such operations;
 - e. Electronic components;
 - f. Cleaning of encasements, including decoy shells or box casings, for electronic components that have a total surface area that is less than 2 square feet;
 - g. Parts, subassemblies, or assemblies that are exposed to strong oxidizers or reducers (e.g., nitrogen tetroxide, liquid oxygen, or hydrazine);
 - h. Transparencies, polycarbonate, or glass substrates;
 - i. Solar cells, coated optics, laser hardware, scientific instruments, high-precision optics, telescopes, microscopes, avionic equipment, and military fluid systems;
 - j. Personal protective equipment.

C. Definitions

See Rule 102, Definitions, for definitions not limited to this rule. For purposes of this rule, the following definitions shall apply:

“Acrylonitrile-Butadiene-Styrene (ABS) Welding Adhesive” means any adhesive intended by the manufacturer to weld ABS pipe. ABS pipe is made by reacting monomers of acrylonitrile, butadiene, and styrene and is normally identified with an ABS marking.

“Adhesive” means any substance that is used to bond one surface to another surface by attachment or fused union.

“Adhesive Primer” means any product intended by the manufacturer to be applied to a substrate, prior to the application of an adhesive, to provide a bonding surface.

“Adhesive Primer for Plastic” means a material applied to a plastic substrate before applying an adhesive in order to obtain better adhesion.

“Adhesive Product” means any adhesive, glue, cement, mastic, adhesive primer, adhesive primer for plastics, and any other adhesive primer. Adhesive products are a type of coating.

“Adhesive Solid” means the nonvolatile portion of an adhesive that remains after heating a sample of the material at 110 degrees Celsius for one hour.

“Aerosol Adhesive” means an adhesive packaged as an aerosol product in which the spray mechanism is permanently housed in a nonrefillable can designed for hand-held application without the need for ancillary hoses or spray equipment. “Aerosol adhesives” include “special purpose spray adhesives,” “mist spray

adhesives,” and “web spray adhesives” as defined in the Air Resources Board consumer products regulation found in Title 17 of the California Code of Regulations, section 94507 et seq.

“Airless Spray” means a spray method in which a pump forces the adhesive through an atomizing nozzle at high pressure (1,000 to 6,000 pounds per square inch).

“Architectural Sealant/Primer” means any sealant or sealant primer intended by the manufacturer to be applied to stationary structures, including mobile homes, and their appurtenances. Appurtenances to an architectural structure include, but are not limited to: hand railings, cabinets, bathroom and kitchen fixtures, fences, rain gutters and downspouts, and windows.

“Associated Solvent” means any solvent used in a solvent cleaning machine or for solvent cleaning performed in association with the application of any adhesive product or sealant product.

“Automotive Glass Adhesive Primer” means any adhesive primer intended by the manufacturer to be applied to automotive glass prior to installation with an adhesive/sealant. This primer improves adhesion to the pinch weld and blocks ultraviolet light.

“Bench Scale Project” means a project (other than at a research and development facility) that is operated on a small scale, such as one capable of being located on a laboratory bench top.

“Ceramic Tile” means a ceramic surfacing unit made from clay or a mixture of clay and other materials.

“Ceramic Tile Installation Adhesive” means any adhesive intended by the manufacturer for the installation of ceramic tiles.

“Chlorinated Polyvinyl Chloride (CPVC) Welding Adhesive” means any adhesive intended by the manufacturer for the welding of CPVC plastic pipe. CPVC plastic is a polymer of the monomer that contains 67 percent chlorine and is normally identified with a CPVC marking.

“Coating” means a material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, adhesive products, paints, varnishes, sealant products, and stains.

“Compliant Material” means any adhesive product, sealant product, stripper, or solvent that has a reactive organic compound content or composite partial pressure that complies with the applicable limit in Section D, E, F, G, H, or R.

“Computer Diskette Jacket Manufacturing Adhesive” means any adhesive intended by the manufacturer to glue the fold-over flaps to the body of a vinyl computer diskette jacket.

“Contact Bond Adhesive” or “Contact Adhesive” means any adhesive intended by the manufacturer for application to both surfaces to be bonded together, which is allowed to dry before the two surfaces are placed in contact with each other, forms an immediate bond that is impossible, or difficult, to reposition after both adhesive-coated surfaces are placed in contact with each other, and 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. Contact adhesive does not include rubber cements that are primarily intended for use on paper substrates. Contact adhesive also does not include vulcanizing fluids that are designed and labeled for tire repair only.

“Contact Bond Adhesive-Specialty Substrates” or “Specialty Contact Adhesive” means any contact adhesive that is intended by the manufacturer to be used for the bonding of nonporous substrates to each other, the bonding of decorative laminate in post-forming application, the bonding of decorative laminate to metal, melamine-covered board, or curved surfaces, or the bonding of any substrate to metal, rubber, rigid plastic, or wood veneer not exceeding 1/16 inch in thickness.

“Control” means the reduction, by destruction or removal, of the amount of affected pollutants in a gas stream prior to discharge to the atmosphere.

“Control System” means any combination of pollutant capture system(s) and control device(s) used to reduce discharge to the atmosphere of reactive organic compound or toxic air contaminant emissions generated by a regulated operation.

“Cove Base Installation Adhesive” means any adhesive intended by the manufacturer for the installation of cove base (or wall base), which is generally made of vinyl or rubber, on a wall or vertical surface at floor level.

“Cyanoacrylate Adhesive” means an adhesive with a cyanoacrylate content of at least 95 percent by weight.

“Dip Coat Application” means any process in which a substrate is immersed in a solution (or dispersion) containing the coating material, and then withdrawn.

“Drywall Installation” means the installation of gypsum drywall to studs or solid surfaces using an adhesive formulated for that purpose.

“Electrodeposition” means the application of a coating using a water-based electrochemical bath process. The component being coated is immersed in a bath of the coating. An electric potential is applied between the component and an oppositely charged electrode hanging in the bath. The electric potential causes the ionized coating to be electrically attracted, migrated, and deposited on the component being coated.

“Fiberglass” means a fiber made from glass and similar in appearance to wool or cotton fiber.

“Flexible Vinyl” means nonrigid polyvinyl chloride plastic with at least five percent, by weight, of plasticizer content. A plasticizer means a material, such as a high boiling point organic solvent, that is incorporated into an adhesive to increase its flexibility, workability, or distensibility, and may be determined using ASTM Method E260-96(2006), “Standard Practice for Packed Column Gas Chromatography,” ASTM International, or from product formulation data.

“Flow Coat Application” means any coating application system, with no air supplied to the nozzle, where paint flows over the part and the excess coating drains back into the collection system.

“Foam” means a rigid or spongy cellular mass with gas bubbles dispersed throughout.

“Glue” means a hard gelatin obtained from hides, tendons, cartilage, bones, etc., of animals. Through general use, the term “glue” is synonymous with the term “adhesive.”

“Grams of Reactive Organic Compound per Liter of Adhesive or Sealant, Less Water and Less Exempt Compounds” means the weight of reactive organic compound per combined volume of reactive organic compound and adhesive or sealant solids, and can be calculated by the following equation:

$$\frac{\text{Grams of reactive organic compounds per liter of adhesive or sealant, less water and less exempt compounds}}{V_m - V_w - V_e} = \frac{W_s - W_w - W_e}{V_m - V_w - V_e}$$

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

For adhesives or sealants that contain reactive diluents, the reactive organic compound content of the adhesive or sealant is determined after curing. The grams of reactive organic compound per liter of adhesive or sealant shall be calculated by the following equation:

$$\frac{\text{Grams of reactive organic compounds per liter of adhesive or sealant, less water and less exempt compounds}}{= \frac{W_{rs} - W_{rw} - W_{re}}{V_{rm} - V_{rw} - V_{re}}}$$

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

“Hand Application Method” means the application of a surface coating by manually held non-mechanically operated equipment. Such equipment includes paint brush, hand-roller, trowel, spatula, dauber, rag or sponge.

“Indoor Floor Covering Installation Adhesive” means any adhesive intended by the manufacturer for the installation of wood flooring, carpet, resilient tile, vinyl tile, vinyl backed carpet, resilient sheet and roll, or artificial grass. Ceramic tile installation and the installation of perimeter bonded sheet flooring with vinyl backing onto a non-porous substrate, such as flexible vinyl are excluded from this category.

“Laminate” means a product made by bonding together two or more layers of material.

“Low-Solids Adhesive, Sealant, or Primer” means any product that contains 120 grams or less of solids per liter of material.

“Marine Deck Sealant/Sealant Primer” means any sealant or sealant primer intended by the manufacturer to be applied to wooden marine decks.

“Metal to Urethane/Rubber Molding or Casting Adhesive” means any 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 such as rollers for computer printers or other paper handling equipment.

“Multipurpose Construction Adhesive” means any adhesive intended by the manufacturer for the installation or repair of various construction materials, including but not limited to drywall, subfloor, panel, fiberglass reinforced plastic (FRP), ceiling tile, and acoustical tile.

“Noncompliant Material” means any adhesive product, sealant product, stripper, or solvent that has a reactive organic compound content or composite partial pressure that does not comply with the applicable limit in Section D, E, F, G, H, or R.

“Nonmembrane Roof Installation/Repair Adhesive” means any adhesive intended by the manufacturer for the installation or repair of nonmembrane roofs and that is not intended for the installation of prefabricated single-ply flexible roofing membrane. This category includes plastic or asphalt roof cement, asphalt roof coatings, and cold application cement.

“Outdoor Floor Covering Installation Adhesive” means any adhesive intended by the manufacturer for the installation of floor covering that is not in an enclosure and means exposed to ambient weather conditions during normal use.

“Panel Installation” means the installation of plywood, pre-decorated hardboard (or tileboard), fiberglass reinforced plastic, and similar pre-decorated or non-decorated panels to studs or solid surfaces using an adhesive formulated for that purpose.

“Percent Reactive Organic Compound By Weight” means the ratio of the weight of the reactive organic compound to the weight of the material, expressed as a percentage of reactive organic compound by weight. The percent reactive organic compound by weight can be calculated as follows:

$$\text{Percent reactive organic compound by weight} = \left[\frac{W_v}{W} \right] \times 100$$

Where: W_v = weight of reactive organic compounds in grams
 W = weight of material in grams

“Perimeter Bonded Sheet Flooring Installation” means the installation of sheet flooring with vinyl backing onto a nonporous substrate using an adhesive design to be applied only to a strip of up to four inches wide around the perimeter of the sheet flooring.

“Plastic Cement Welding Adhesive Primer” means any primer intended by the manufacturer to prepare plastic substrates prior to bonding or welding.

“Plastic Foam” means any foam constructed of plastics.

“Plastics” mean various synthetic materials chemically formed by the polymerization of organic (carbon-based) substances. Plastics are usually compounded with modifiers, extenders, and/or reinforcers. They are used to produce pipe, solid sheet, film, or bulk products.

“Polyurethane Foams” mean plastic foams, as defined in “Whittington’s Dictionary of Plastics,” page 329, and may be either rigid or flexible.

“Polyvinyl Chloride (PVC) Plastic” means a polymer of the chlorinated vinyl monomer that contains 57 percent chlorine and is normally identified with a PVC marking.

“Polyvinyl Chloride (PVC) Welding Adhesive” means any adhesive intended by the manufacturer for the welding of PVC plastic pipe.

“Porous Material” means a substance that has tiny openings, often microscopic, in which fluids may be absorbed or discharged. Such materials include but are not limited to wood, paper, corrugated paperboard, and plastic foam.

“Propellant” means a fluid under pressure that expels the contents of a container when a valve means opened.

“Reactive Diluent” means a liquid which is a reactive organic compound during application and one in which, through chemical and/or physical reactions, such as polymerization, 20 percent or more of the reactive organic compound becomes an integral part of a finished material.

“Roadway Sealant” means any sealant intended by the manufacturer to be applied to public streets, highways, and other surfaces, including but not limited to curbs, berms, driveways, and parking lots.

“Rubber” includes any natural or manmade rubber substrate, including but not limited to, styrene-butadiene rubber (SBR), polychloroprene (neoprene), butyl rubber, nitrile rubber, chlorosulfonated polyethylene (CSM), and ethylene propylene diene terpolymer (EPDM).

“Sealant” means any material with adhesive properties that is formulated primarily to fill, seal, waterproof, or weatherproof gaps or joints between two surfaces. Sealants include caulks.

“Sealant Primer” means any product intended by the manufacturer to be applied to a substrate, prior to the application of a sealant, to enhance the bonding surface.

“Sealant Product” means any sealant and sealant primer. Sealant products are a type of coating.

“Sealant Solid” means the nonvolatile portion of a sealant that remains after heating a sample of the material at 110 degrees Celsius for one hour.

“Sheet-Applied Rubber Installation” means sheet rubber lining applied to the interior walls of stationary tanks and rail cars.

“Single-Ply Roof Membrane” means single sheets of rubber, normally EPDM (ethylene-propylene diene terpolymer), that are applied in a single layer to a building roof (normally a flat roof).

“Single-Ply Roof Membrane Adhesive” means any adhesive intended by the manufacturer for the installation or repair of single-ply roof membrane. 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. Repair includes gluing the edges of tears together, attaching a patch over a hole, and reapplying flashings to vents, pipes, or ducts installed through the membrane.

“Single-Ply Roof Membrane Adhesive Primer” means any primer intended by the manufacturer to clean and promote adhesion of the single-ply roof membrane seams or splices prior to bonding.

“Single-Ply Roof Membrane Sealant” means any sealant to be used for the installation or repair of single-ply roof membrane to the edge of the roof and applying flashings to vents, pipes, or ducts that protrude through the membrane. Repair includes, but is not limited to gluing the edges of tears together, attaching a patch to a hole, and reapplying flashings to vents, pipes, or ducts installed through the membrane.

“Solvent” means any liquid containing any reactive organic compound or any toxic air contaminant, which is used as a diluent, thinner, dissolver, viscosity reducer, cleaning agent, drying agent, preservative, or other similar uses.

“Solvent Bonding” has the same meaning as “solvent welding.”

“Solvent Cleaning” means any activity, operation, or process (including, but not limited to, surface preparation, cleanup, or wipe cleaning) performed outside of a solvent cleaning machine, that uses solvent to remove uncured adhesives, uncured coatings, uncured inks, uncured polyester resin material, uncured sealant, or other contaminants, including, but not limited to, dirt, soil, oil, lubricants, coolants, moisture, fingerprints, and grease, from parts, products, tools, machinery, application equipment, and general work areas. Cleaning spray equipment used for the application of coating, adhesive, ink, polyester resin material, or sealant is also considered to be solvent cleaning irrespective of the spray material being cured.

“Solvent Cleaning Machine” means any device or piece of equipment that uses solvent liquid or vapor to remove soils, moisture, or other contaminants from the surfaces of materials. Types of solvent cleaning machines include, but are not limited to, batch cold, batch vapor, in-line cold, in-line vapor, remote reservoir, and gas-path solvent cleaners. Buckets, pails, and beakers with capacities of 3.785 liters (1.00 gallon) or less are not considered solvent cleaning machines. However, the use of such a container or similar containers (e.g., hand-held spray bottles) with a liquid solvent for cleaning is considered to be solvent cleaning. Any device or piece of equipment used exclusively for stripping shall not be considered to be a solvent cleaning machine.

“Solvent Welding” means the softening of the surfaces of two substrates by wetting them with solvents and/or adhesives, and joining them together with a chemical and/or physical reaction(s) to form a fused union.

“Stripper” means any liquid that is applied to a surface to remove cured or dried coatings such as primers, adhesives (e.g., debonding or unglueing), topcoats, and temporary protective coatings.

“Structural Glazing Adhesive” means any adhesive intended by the manufacturer to adhere glass, ceramic, metal, stone, or composite panels to exterior building frames.

“Subfloor Installation” means the installation of subflooring material over floor joists, including the construction of any load bearing joists. Subflooring means covered by a finish surface material.

“Surface Preparation Solvent” means a solvent used in the cleaning of a substrate to remove dirt, oil, and other contaminants (e.g., uncured coatings). This surface cleaning is typically done prior to the application of primers, adhesives, or sealants.

“Thin Metal Laminating Adhesive” means any adhesive intended by the manufacturer to bond 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(s) is less than 0.25 mil (0.00025 inch, 0.00635 millimeter).

“Tire Repair” means the expanding of a hole, tear, fissure, or blemish in a tire casing by grinding or gouging, applying adhesive, and filling the hole or crevice with rubber.

“Tire Retread Adhesive” means any adhesive intended by the manufacturer to be applied to the back of precure tread rubber and to the casing and cushion rubber. It may also be used to seal buffed tire casings to prevent oxidation while the tire is being prepared for a new tread.

“Traffic Marking Tape” means preformed reflective film intended by the manufacturer to be applied to public streets, highways, and other surfaces, including but not limited to curbs, berms, driveways, and parking lots.

“Traffic Marking Tape Adhesive Primer” means any primer intended by the manufacturer to be applied to surfaces prior to installation of traffic marking tape.

“Viscosity” means the internal friction of a liquid that makes it resistant to flow.

“Volatile Organic Compound (VOC)” has the same meaning as “reactive organic compound” as defined in Rule 102, Definitions. Tertiary-butyl acetate (also known as t-butyl acetate or tBAC) shall be considered exempt as a reactive organic compound only for purposes of reactive organic compound emissions limitations or reactive organic compound content requirements and will continue to be a reactive organic compound for purposes of all recordkeeping, emissions reporting, photochemical dispersion modeling, and inventory requirements which apply to reactive organic compounds.

“Waterproof Resorcinol Glue” means 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.

“Wood Flooring Installation” means the installation of a wood floor surface, which may be in the form of parquet tiles, planks, or strip-wood.

“Wood Parquet Flooring” means wood flooring in tile form constructed of smaller pieces of wood which are joined together in a pattern by the maker to form the tile.

“Wood Plank Flooring” means solid or laminated wood in plank form.

D. Requirements – Reactive Organic Compound Limits for Specific Applications of Adhesive Products or Sealant Products

Except as provided in Sections E and I, no person shall apply nonaerosol adhesive products or sealant products that are listed under the Table 353-1 product categories and that have a reactive organic compound content (grams per liter [g/l], less water and less exempt compounds) in excess of the Table 353-1 limits. For low-solids adhesives, sealants, or primers, the reactive organic compound content is based on a grams of reactive organic compound per liter of material basis.

TABLE 353-1. REACTIVE ORGANIC COMPOUND LIMITS FOR SPECIFIC APPLICATIONS

TYPE	PRODUCT CATEGORY	ROC LIMITS			
		On and After 01/01/2000		On and After 06/21/2013	
		(g/l)	(lb/gal)	(g/l)	(lb/gal)
1. Adhesives					
	ABS welding	400	3.3	400	3.3
	Ceramic tile installation	130	1.1	130	1.1
	Computer diskette jacket manufacturing	850	7.1	850	7.1
	Contact bond	540	4.5	250	2.1
	Contact bond-specialty substrates	540	4.5	400	3.3
	Cove base installation	150	1.3	150	1.3
	CPVC welding	490	4.1	490	4.1
	Indoor floor covering installation (except ceramic tile installation)	150	1.3	150	1.3
	Metal to urethane/rubber molding or casting	850	7.1	250	2.1
	Multipurpose construction (except cove base installation)	200	1.7	70	0.6
	Nonmembrane roof installation/repair	300	2.5	300	2.5
	Other plastic cement welding	510	4.3	250	2.1
	Outdoor floor covering installation	250	2.1	250	2.1
	Perimeter bonded sheet vinyl flooring installation	660	5.5	660	5.5
	PVC welding	510	4.3	500	4.2
	Sheet-applied rubber installation	850	7.1	850	7.1
	Single-ply roof membrane installation/repair	250	2.1	250	2.1
	Structural glazing	100	0.8	100	0.8
	Thin metal laminating	780	6.5	780	6.5
	Tire retread	100	0.8	100	0.8
	Traffic marking tape	150	1.3	150	1.3
	Waterproof resorcinol glue	170	1.4	170	1.4
2. Sealants					
	Architectural	250	2.1	250	2.1
	Marine deck	760	6.3	760	6.3
	Nonmembrane roof installation/repair	300	2.5	300	2.5
	Roadway	250	2.1	250	2.1
	Single-ply roof membrane	450	3.8	450	3.8
	Other	420	3.5	420	3.5

TABLE 353-1. REACTIVE ORGANIC COMPOUND LIMITS FOR SPECIFIC APPLICATIONS

TYPE	PRODUCT CATEGORY	ROC LIMITS			
		On and After 01/01/2000		On and After 06/21/2013	
		(g/l)	(lb/gal)	(g/l)	(lb/gal)
3. Adhesive Primers					
	Automotive glass	700	5.8	700	5.8
	Plastic cement welding	650	5.4	650	5.4
	Single-ply roof membrane	250	2.1	250	2.1
	Traffic marking tape	150	1.3	150	1.3
	Other	250	2.1	250	2.1
4. Sealant Primers					
	Architectural – non porous	250	2.1	250	2.1
	Architectural – porous	775	6.5	775	6.5
	Marine deck	760	6.3	760	6.3
	Other	750	6.3	750	6.3

E. Requirements – Reactive Organic Compound Limits for Nonspecific Applications of Adhesive Products or Sealant Products onto Substrates

Except as provided below and in Section I, no person shall apply nonaerosol adhesive products or sealant products to a substrate that have a reactive organic compound content (grams per liter, less water and less exempt compounds) in excess of the Table 353-2 limits. For low-solids adhesives, sealants, or primers, the reactive organic compound content is based on a grams of reactive organic compound per liter of material basis.

The limit for a nonspecific application onto a substrate where an operator:

1. Bonds dissimilar substrates together, is the applicable substrate category with the highest reactive organic compound content.
2. Uses an adhesive or sealant listed in Table 353-1, is the limit specified in Table 353-1 for that particular product category.

TABLE 353-2. REACTIVE ORGANIC COMPOUND LIMITS FOR NONSPECIFIC APPLICATIONS OF ADHESIVE PRODUCTS AND SEALANT PRODUCTS ONTO SUBSTRATES

SUBSTRATE/APPLICATION	ROC LIMITS			
	On and After 08/19/1999		On and After 06/21/2013	
	(g/l)	(lb/gal)	(g/l)	(lb/gal)
Flexible vinyl	250	2.1	250	2.1
Fiberglass	200	1.7	80	0.7
Metal	30	0.3	30	0.3
Porous material	120	1.0	50	0.4
Rubber	250	2.1	250	2.1
Other substrates	250	2.1	250	2.1

F. Requirements – Aerosol Adhesives Reactive Organic Compound Limit

Except as provided in Section I, no person shall use any aerosol adhesive unless the reactive organic compound content complies with the Air Resources Board consumer products regulation found in Title 17 of the California Code of Regulations, section 94507 et seq.

G. Requirement – Cleanup Solvent and/or Cleanup Method

1. Before June 21, 2013, except as provided in Section I, no person shall use materials containing reactive organic compound for the removal of uncured adhesive products or uncured sealant products from surfaces, other than spray application equipment, unless the reactive organic compound composite partial pressure of the solvent used is less than 45 millimeters of mercury at 20 degrees Celsius.

Effective June 21, 2013, except as provided in Sections G.2 and I, no person shall use any solvent containing more than 25 grams of reactive organic compound (0.21 pound of reactive organic compound per gallon) per liter of material for the removal of uncured adhesive products or uncured sealant products from surfaces.

2. Spray application equipment: Before June 21, 2013, except as provided in Section I, either one of the following shall be used for cleaning, flushing or soaking of filters, flushing lines, pipes, pumps, and other parts of the application equipment:
 - a. An enclosed cleaning system, or an equivalent cleaning system as determined by the test method referenced in Section N.8, or
 - b. A solvent with a content of 70 grams of reactive organic compound per liter (0.6 pound per gallon) of material or less. Parts containing dried adhesive may be soaked in an organic solvent as long as the reactive organic compound composite partial pressure of the solvent is 9.5 millimeters of mercury at 20 degrees Celsius or less and is kept in a closed container, which shall be closed except when depositing or removing parts or materials from the container.

Effective June 21, 2013, except as provided in Section I, any person cleaning spray application equipment with a solvent containing more than 25 grams of reactive organic compound per liter (0.21 pound of reactive organic compound per gallon) of material shall use an enclosed cleaning system, or equipment that is proven to the satisfaction of the Control Officer to be equally effective as an enclosed cleaning system at controlling emissions. "Equal effectiveness" of an alternative cleaning system shall be determined by the test method referenced in Section N.8. If an enclosed cleaning system is used, it shall totally enclose spray guns, cups, nozzles, bowls, and other parts during washing, rinsing, and draining procedures, and it shall be used according to the manufacturer's recommendations and be closed when not in use.

H. Requirements – Surface Preparation Solvent

Before June 21, 2013, except as provided in Section I and for single-ply roofing, no person shall use materials containing reactive organic compounds for surface preparation unless the content of the solvent is 70 grams of reactive organic compound per liter (0.6 pound per gallon) of material or less. For single-ply roofing surface preparation solvent, the reactive organic compound composite partial pressure shall not exceed 45 millimeters of mercury at 20 degrees Celsius.

Effective June 21, 2013, except as provided in Section I, no person shall use any solvent containing more than 25 grams of reactive organic compound per liter (0.21 pound of reactive organic compound per gallon) of material for surface preparation.

I. Requirements – Alternative Compliance Provision

A person may elect to use an add-on control system as an alternative to meeting the requirements of Sections D, E, F, G, H, Q, and R, provided all of the applicable requirements below are met. Any person choosing to install such control system shall obtain an Authority to Construct from the District prior to installation.

1. The overall efficiency (the capture efficiency multiplied by the control device efficiency) of the total system shall be at least 85.0 percent, by weight. Alternatively, the control device reactive organic compound exhaust concentration shall not exceed 10 parts per million by volume as propane or other limit approved by the Environmental Protection Agency, the Air Resources Board, and the Control Officer.
2. Combustion temperature shall be continuously monitored when operating a thermal incinerator.
3. Inlet and exhaust gas temperatures shall be continuously monitored when operating a catalytic incinerator.
4. Control device efficiency shall be continuously monitored when operating a carbon adsorber or control device other than a thermal or catalytic incinerator.
5. Compliance through the use of an emission control system shall not result in affected pollutant emissions in excess of the affected pollutant emissions that would result from compliance with Sections D, E, F, G, H, Q, and R.

J. Requirements – General Operating

Any person who owns, operates, or uses any application equipment to apply any adhesive products or sealant products shall ensure the coating operation and any solvent cleaning associated with such operation meets the following requirements:

1. All reactive organic compound-containing materials, used or unused, including, but not limited to, adhesive products, sealant products, and reactive organic compound-laden cloth or paper used in solvent cleaning and stripping of cured adhesives, shall be stored and disposed of in nonabsorbent and nonleaking containers equipped with tight-fitting covers. All covers shall be in place unless adding material to or removing material from the containers, the containers are empty, or doing maintenance/inspection of the containers.
2. All application equipment, ventilation system, and emission control equipment shall be installed, operated, and maintained consistent with the manufacturer's specifications.
3. Waste solvent, waste solvent residues, and any other waste material that contains reactive organic compounds shall be disposed of by one of the following methods:
 - a. A commercial waste solvent reclamation service licensed by the State of California.
 - b. At a facility that is federally or state licensed to treat, store or dispose of such waste.
 - c. Recycling in conformance with Section 25143.2 of the California Health and Safety Code.
4. All covers, valves, drain plugs, and other closure devices designed to reduce evaporation of reactive organic compound-containing materials shall not be removed or opened except to process work or to perform monitoring, inspections, maintenance, or repairs that require the removal of the covers or other closure devices.

5. Any reactive organic compound-containing material spills shall be wiped up immediately and the used absorbent material (e.g., cloth, paper, sand, sawdust, etc.) shall be stored in closed containers that are handled in accordance with Section J.1.
6. The handling and transfer of coatings, strippers, and cleaning solvents to or from enclosed systems, vats, waste containers, and other cleaning operation equipment that hold or store fresh or spent coatings, strippers, and cleaning solvents shall be conducted in such a manner that minimizes spills.
7. Containers used to store adhesive products, sealant products, solvent, or any waste material that contains reactive organic compounds subject to this rule shall be marked or clearly labeled indicating the name of the material they contain.

K. Requirements – Prohibition of Sales

1. Except as provided in Section B.10, no person shall supply, sell, or offer for sale any nonaerosol adhesive product or sealant product that, at the time of sale, is listed in Section D Table 353-1 and exceeds the corresponding reactive organic compound limits therein.
2. Except as provided in Section B.10 of this rule, no person shall supply, sell, or offer for sale, any aerosol adhesive unless, at the time of sale, the provisions of the Air Resources Board consumer product regulation, found in Title 17 of the California Code of Regulations, section 94507 et seq., are met.

L. Requirements – Manufacturer Compliance Statement and Labeling

The manufacturer of any adhesive products or sealant products subject to this rule shall include a designation of the maximum reactive organic compound or volatile organic compound content as supplied, expressed in grams per liter or pounds per gallon excluding water and exempt compounds from the appropriate test method, on labels and data sheets. This designation shall include recommendations regarding thinning, reducing, or mixing with any other reactive organic compound- or volatile organic compound-containing material. This information shall include the maximum reactive organic compound or volatile organic compound content on an as-applied basis when used in accordance with the manufacturer's recommendations.

M. Requirements – Prohibition of Specification

No person shall solicit, require for use, or specify the application of any adhesive products, sealant products, or associated solvent if such use or application results in a violation of the provisions of this rule. This prohibition shall apply to all written or oral contracts.

N. Requirements – Compliance Provisions and Test Methods

1. Except as specified in Section N.4, nonaerosol adhesive products, sealant products, and associated solvents reactive organic compound content shall be determined using Environmental Protection Agency Reference Method 24, its constituent methods, or an equivalent method approved by the Environmental Protection Agency, the Air Resources Board, and the Control Officer. The reactive organic compound content of materials containing 50 grams of reactive organic compound per liter or less shall be determined by the South Coast Air Quality Management District Method 313-91, "Determination of Volatile Organic Compounds by Gas Chromatography-Mass Spectrometry," June 1993, or any other test methods approved by the Environmental Protection Agency, the Air Resources Board, and the Control Officer.
2. Exempt compounds shall be determined using ASTM D4457-1991, "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. Alternatively, determination of

exempt compounds may be performed in accordance with the South Coast Air Quality Management District Method 303-91, "Determination of Exempt Compounds," August 1996. For exempt compounds where no reference test method is available, a facility requesting the exemption shall provide appropriate test methods approved by the Control Officer and approvable by the Air Resources Board and the Environmental Protection Agency.

3. The reactive organic compound content of aerosol adhesives and aerosol adhesive primers shall be determined using South Coast Air Quality Management District Test Method 305-91, "Determination of Volatile Organic Compounds in Aerosol Applications," June 1993, or Air Resources Board Method 310, "Determination of Volatile Organic Compounds in Consumer Products and Reactive Organic Compounds in Aerosol Coating Products," June 22, 2000, upon the Environmental Protection Agency approval of Method 310.
4. The reactive organic compound content of any plastic welding cement adhesive or primer shall be determined using South Coast Air Quality Management District Method 316A-92, "Determination of Volatile Organic Compound (VOC) in Materials Used for Pipes and Fittings," October 1996.
5. Reactive organic compound composite partial pressures shall be measured using ASTM D 2879-1997, "Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope," ASTM International, in combination with the formula in the Rule 102 definition of "reactive organic compound composite partial pressure," manufacturer's specified reactive organic compound composite partial pressure, or an accepted scientific reference approved the Environmental Protection Agency, the Air Resources Board, and the Control Officer.
6. The capture efficiency for reactive organic compound emissions shall be determined by verifying the use of a Permanent Total Enclosure and 100 percent capture efficiency as defined by Environmental Protection Agency Method 204, "Criteria for and Verification of a Permanent or Temporary Total Enclosure." Alternatively, if an Environmental Protection Agency Method 204 defined Permanent Total Enclosure is not employed, capture efficiency shall be determined using a minimum of three sampling runs subject to data quality criteria presented in the Environmental Protection Agency technical guidance document "Guidelines for Determining Capture Efficiency, January 9, 1995." Individual capture efficiency test runs subject to the Environmental Protection Agency technical guidelines shall be determined by:
 - a. The Temporary Total Enclosure approach of Environmental Protection Agency Methods 204 through 204F; or
 - b. The South Coast Air Quality Management District "Protocol for Determination of Volatile Organic Compounds (VOC) Capture Efficiency," May 1995
7. The control device efficiency for reactive organic compound emissions shall be determined by Environmental Protection Agency Methods 25, 25A, the South Coast Air Quality Management District Method 25.1, "Determination of Total Gaseous Non-Methane Organic Emissions as Carbon," February 1991, or the South Coast Air Quality Management District Method 25.3, "Determination of Low Concentration Non-Methane Non-Ethane Organic Compound Emissions from Clean Fueled Combustion Sources," March 2000, as applicable. Environmental Protection Agency Test Method 18 or Air Resources Board Method 422, "Exempt Halogenated VOCs in Gases," September 12, 1990, shall be used to determine emissions of exempt compounds.
8. The active and passive solvent losses from spray gun cleaning systems shall be determined using South Coast Air Quality Management District's, "General Test Method for Determining Solvent Losses from Spray Gun Cleaning Systems," dated October 3, 1989. The test solvent for this determination shall be any lacquer thinner with a minimum reactive organic compound composite partial pressure of 105 millimeters of mercury at 20 degrees Celsius, and the minimum test

temperature shall be 15 degrees Celsius.

9. To determine if a diluent is a reactive diluent, the percent of the reactive organic compound that becomes an integral part of the finished material shall be determined using the South Coast Air Quality Management District Method 316A-92, "Determination of Volatile Organic Compound (VOC) in Materials Used for Pipes and Fittings," October 1996.
10. Application equipment coating transfer efficiencies shall be measured using South Coast Air Quality Management District Method "Spray Equipment Transfer Efficiency Test Procedure for Equipment User," May 1989.
11. The capture efficiency requirement for toxic air contaminant emissions that are not reactive organic compounds shall be determined by using the methods described in Section N.6 modified in a manner approved by the District to quantify the mass of liquid or gaseous reactive organic compounds and/or toxic air contaminants.
12. The control device efficiency requirement for toxic air contaminant emissions that are not reactive organic compounds shall be determined using:
 - a. an Environmental Protection Agency approved test method or methods, or
 - b. in the case where there is no Environmental Protection Agency approved test method, a District approved detection method applicable for each target toxics specie.
 - c. the Control Officer may require more than one test method on any emission control device where necessary to demonstrate that the overall efficiency is at least 85 percent by weight in reducing emissions of reactive organic compounds and/or toxic air contaminants. Any technique to convert "parts per million by volume" test method results to either 1) "parts per million by weight," or 2) "mass emission rates" (e.g., pounds per hour) shall first be approved by the Control Officer and, if such approval is not provided, then the technique shall not be used to show compliance with this rule.
13. Viscosity will be determined by ASTM D 1084-88, "Standard Test Methods for Viscosity of Adhesives," ASTM International.
14. Emissions of reactive organic compounds from the exhaust of an emission control system shall be measured by the Environmental Protection Agency Method 25, in combination with Environmental Protection Agency Method 18 or the California Air Resources Board Method 422, "Exempt Halogenated VOCs in Gases," September 12, 1990 (to determine emissions of exempt compounds).
15. When more than one test method or set of test methods are specified for any testing, a test result showing an exceedance of any limit of this rule shall constitute a rule violation.
16. The Environmental Protection Agency test methods in effect on June 21, 2012 shall be the test methods used to meet the requirements of this rule.

O. Requirements – Recordkeeping

Any person subject to this rule that manufactures or applies any adhesive product or sealant product shall comply with the following requirements. Any owner or operator of any stationary source comprised of more than one facility may comply with the following requirements on a facility basis.

1. Maintain a current file of all reactive organic compound-containing materials in use at the stationary source subject to this rule. The file shall provide all of the data necessary to evaluate compliance and shall include the following information, as applicable:

- a. material name, manufacturer identification (e.g., brand name, stock identification number);
 - b. application method;
 - c. material type, manufacturer's specific use instructions (e.g., specific use for which the material is intended), type operation (e.g., coating, stripping, or solvent cleaning), and, for coating operations, the product type, type of substrate coated, and type of application (i.e., the adhesive product and sealant product type from Table 353-1 or Table 353-2);
 - d. specific mixing data (e.g., component volumes or weights) of each component for each batch sufficient to determine the mixture's reactive organic compound content;
 - e. the corresponding reactive organic compound limit(s) from Sections D, E, F, G, H, and R and the actual as applied reactive organic compound content of the materials used. If complying using the "reactive organic compound composite partial pressure" method, provide the actual reactive organic compound composite partial pressure of the materials used
 - f. current adhesive product, sealant product, stripper, and solvent manufacturer specification sheets, Material Safety Data Sheets, product data sheets, or air quality data sheets, which list the reactive organic compound content of each material in use at the stationary source subject to this rule. Compliance with this provision may be done by ensuring the manufacturer's specifications are listed on the product container.
2. Maintain records for each reactive organic compound-containing material purchased for use at the stationary source. The records shall include, but not be limited to, the following:
 - a. material name and manufacturer identification (e.g., brand name, stock identification number); and
 - b. material type (e.g., adhesive product and sealant product type from Tables 353-1 and 353-2, cleanup solvent, stripper, etc.).
 3. Maintain records of the disposal method each time waste solvent, waste solvent residue, or other waste material that contain reactive organic compounds is removed from the stationary source for disposal.
 4. For each material maintained in response to Section O.1.a, maintain, at a minimum, on a monthly basis for compliant material and on a daily basis for noncompliant material, a record of the following:
 - a. volume used (gallons per day, gallons per month);
 - b. reactive organic compound content (grams per liter or pounds per gallon); and
 - c. resulting reactive organic compound emissions (pounds per day, pounds per month).
 5. For any stationary source that uses emission control equipment as an alternative to meeting the requirements of Sections D, E, F, G, H, Q, or R, daily records of key operating parameter values and maintenance procedures that demonstrate continuous operation and compliance of the emission control equipment during periods of emission producing activities shall be maintained. These parameters shall include, but not be limited to:
 - a. Hours of operation;

- b. All maintenance work that requires the emission control system to be shut down;
 - c. All information needed to demonstrate continuous compliance with Section I, such as temperatures, pressures, and/or flow rates.
6. Any records required to be maintained pursuant to this rule shall be kept on site for at least 2 years unless a longer retention period is otherwise required by state or federal regulation(s). Such records shall be readily available for inspection and review by the District.

P. Compliance Schedule

Any person subject to this rule shall meet the following compliance schedule:

- 1. By July 21, 2012, comply with Section J, Requirements - General Operating.
- 2. By December 21, 2012, comply with the recordkeeping provisions in the following Sections:
 - a. O.1.d - mixing data,
 - b. O.1.e - reactive organic compound content data or stripper composite partial pressure data,
 - c. O.2 - purchase records,
 - d. O.3 - waste disposal records, and
 - e. O.4 - daily records for noncompliant materials.
- 3. By June 21, 2013, comply with the applicable provisions in Sections G and H that have a phased-in effective date.
- 4. By June 21, 2013, comply with Section Q, R, and T requirements.
- 5. By June 21, 2012, comply with all other provisions of this rule.

Q. Requirement – Adhesive and Sealant Application Equipment

Effective June 21, 2012, no person shall apply adhesives or sealants unless the application is performed with equipment operating according to the manufacturers operating guidelines. In addition, except as provided in Section I, the application method employed shall be one of the following:

- 1. Electrostatic spray application, or
- 2. Flow coat application, or
- 3. Dip coat application, or
- 4. Roll Coater, or
- 5. High volume low pressure spraying equipment, or
- 6. Electrodeposition, or
- 7. Hand application methods, or

8. Any other application method approved by the Control Officer, the Air Resources Board, and the Environmental Protection Agency, that has a coating transfer efficiency equivalent to or greater than 65 percent efficiency as measured using the test method specified in Section N.10.
9. Except as otherwise provided in Section Q.10, air-atomized spray may only be used for the application of contact adhesives or specialty contact adhesives.
10. For adhesive products and sealant products with an as applied viscosity of 200 centipoise or greater, airless spray, air-assisted airless, and air-atomized spray may be used.

R. Requirements – Coating Stripper Use

Effective June 21, 2013, except as provided in Section I, no person shall apply any stripper or solicit the use of any stripper unless it complies with one or both of the following:

1. The stripper contains less than 300 grams of reactive organic compound per liter (2.5 pounds of reactive organic compound per gallon) of material.
2. The stripper has a reactive organic compound composite partial pressure equal to or less than 9.5 millimeters of mercury at 20 degrees Celsius.

S. Reporting Requirements

Submittal of an annual report to the District is required if a person holds a permit for applying adhesive products or sealant products subject to this rule. The annual report shall be due March 1 and it shall contain the following information for the previous calendar year:

1. monthly totals (gallons) of compliant and noncompliant material used based on the records required by Section O.4,
2. annual totals (gallons) based on each of the coating's, solvent's, and stripper's monthly data, and
3. name and address of the owner or operator, and the Permit to Operate number that the adhesive products and/or sealant products application operations are subject to.

T. Requirements - Solvent Cleaning Machine

Any person who owns, operates, or uses any solvent cleaning machine shall comply with the applicable provisions of Rule 321, Solvent Cleaning Machines and Solvent Cleaning.