

ALL NEW TEXT
2105.85 CONTROL OF VOC EMISSIONS FROM MISCELLANEOUS INDUSTRIAL ADHESIVES

a. **Applicability.** Beginning January 1, 2014, this section applies to the owner or operator of a miscellaneous industrial adhesive application process, where the total actual VOC emissions from all miscellaneous industrial adhesives, including related cleaning activities, at that facility are equal to or greater than 15 pounds (6.8 kilograms) per day or 2.7 tons (2,455 kilograms) per twelve month rolling period, before controls.

. **Limitations.** A person may not cause or permit the emission into the outdoor atmosphere of VOCs from a miscellaneous industrial adhesive process, unless one of the following limitations is met:

1. The VOC content of each applied adhesive is equal to or less than the standard specified in Table 2105.85.

A. The VOC content, minus exempt compounds, of the applied adhesive, expressed in units of weight of VOC per volume of total nonexempt material, shall be calculated as follows:

$$\text{VOC} = \frac{W_s - W_w - W_{es}}{V_m - V_w - V_{es}}$$

Where:

VOC = VOC content, minus exempt compounds, in lb (g) VOC / gal (l) of materials, minus exempt compounds

W_s = Weight of all volatile material in pounds (g), including VOC, water, non-precursor organic compounds and dissolved vapors

W_w = Weight of water in pounds (g)

W_{es} = Weight of all non-precursor compounds in pounds (g)

V_m = Volume of total material, as applied in gallons (l)

V_w = Volume of water in gallons (l)

V_{es} = Volume of all non-precursor compounds in gallons (l)

B. The VOC content limits of subparagraph A may be met by averaging the VOC content of materials used on a single application unit for each day (i.e., daily within-application unit averaging).

2. The overall weight of VOC emitted to the atmosphere is reduced through the use of an oxidizer, adsorber, absorber or another add-on control which is acceptable under § 2105.01 (Equivalent Compliance Techniques). The overall control system, as determined by the test methods and procedures specified in Part G, shall be no less than 85%.

3. A combination of the methods listed in paragraphs 1 and 2.

c. **Records.** A facility, regardless of the facility's annual emission rate, which contains miscellaneous industrial adhesive application processes, shall maintain records sufficient to demonstrate compliance with this section. At a minimum, a facility shall maintain daily records of:

1. The following parameters for each adhesive and other component as supplied:

- A. The name and identification number of each adhesive, or component;
- B. The volume used;
- C. The mix ratio;
- D. The density or specific gravity;
- E. The weight percent of total volatiles, water, and exempt solvents;
- F. The volume percent of total materials, water, and exempt solvents for Table 2105.86 miscellaneous industrial adhesives.

The records shall be maintained for 2 years and shall be submitted to the Department on a schedule reasonably prescribed by the Department.

d. **Exempt Solvents.** The solvents methyl chloroform (1,1,1-trichloroethane) and methylene chloride are exempt from control under this Section. No miscellaneous industrial adhesive application process which seeks to comply with this Section through the use of an exempt solvent may be included in any alternative standard approved pursuant to this Article.

e. **Application Techniques.** A person may not cause or permit the emission into the outdoor atmosphere of VOCs from the application of miscellaneous industrial adhesives unless the adhesives are applied using one or more of the following application methods:

- 1. Electrostatic spraying;
- 2. High volume-low pressure (HVLP) spraying;
- 3. Flow coating;
- 4. Dip coating, including electrodeposition;
- 5. Airless spraying;
- 6. Air-assisted airless spraying;
- 7. Roll coating or hand application, including non-spray application methods similar to hand or mechanically powered caulking gun, brush, or direct hand application;
- 8. Other adhesive application method that the person demonstrates and the Department determines achieves emission reductions equivalent to HVLP spraying.

f. **Exempt Other.** The following shall be exempt from the limitations set by Subsection b, but shall still comply with the Subsection h, Housekeeping:

1. Adhesives or adhesive primers being tested or evaluated in any research and development, quality assurance, or analytical laboratory.
2. Adhesives or adhesive primers used in the assembly, repair, or manufacture of aerospace or undersea-based weapon systems.
3. Adhesives or adhesive primers used in medical equipment manufacturing operations.
4. Cyanoacrylate adhesive application processes.
5. Aerosol adhesive and aerosol adhesive primer application processes.
6. Processes using polyester bonding putties to assemble fiberglass parts at fiberglass boat manufacturing facilities and at other reinforced plastic composite manufacturing facilities.
7. Processes using adhesives and adhesive primers that are supplied to the manufacturer in containers with a net volume of 16 ounces or less, or a net weight of one pound or less.

g. **Emission Limitations.** If an adhesive is used to bond dissimilar substrates together, then the applicable substrate category with the least stringent emission limitation applies.

h. **Housekeeping.** The following work practices for cleaning materials apply to the owner or operator of a miscellaneous industrial adhesive application processes:

1. Store all VOC-containing adhesives, adhesive primers, process-related waste materials, cleaning materials and used shop towels in closed containers.
2. Ensure that mixing and storage containers used for VOC-containing adhesives, adhesive primers, process-related waste materials, and cleaning materials are kept closed at all times except when depositing or removing those materials.
3. Minimize spills of VOC-containing adhesives, adhesive primers, process-related waste materials, and cleaning materials, cleaning up spills immediately.
4. Convey VOC-containing adhesives, adhesive primers, process-related waste materials, and cleaning materials from one location to another in closed containers or pipes.
5. Minimize VOC emissions from cleaning of application, storage, mixing and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

i. **Measurements.** Measurements of the volatile fraction of adhesives, other than reactive adhesives, used at facilities operating miscellaneous industrial adhesive application processes shall be performed according to the applicable procedures established in § 2107.04 of this Article.

Table 2105.85
Emission Limits of VOCs for Miscellaneous Industrial Adhesives
Limits as Applied VOC content minus exempt compounds

General Adhesive Application Processes lb/gal g/l	
Reinforced Plastic Composite	1.7 200
Flexible Vinyl	2.1 250
Metal	0.3 30
Porous Material (Except Wood)	1.0 120
Rubber	2.1 250
Wood	0.3 30
Other Substrates	2.1 250
Specialty Adhesive Application Processes	
Ceramic Tile Installation	1.1 130
Contact Adhesive	2.1 250
Cove Base Installation	1.3 150
Floor Covering Installation (Indoor)	1.3 150
Floor Covering Installation (Outdoor)	2.1 250
Floor Covering Installation (Perimeter Bonded Sheet Vinyl)	5.5 660
Metal to Urethane/Rubber Molding or Casting	7.1 850
Motor Vehicle Adhesive	2.1 250
Motor Vehicle Weather-strip Adhesive	6.3 750
Multipurpose Construction	1.7 200
Plastic Solvent Welding (ABS)	3.3 400
Plastic Solvent Welding (Except ABS)	4.2 500
Sheet Rubber Lining Installation	7.1 850
Single-Ply Roof Membrane Installation/Repair (Except EPDM)	2.1 250
Structural Glazing	0.8 100
Thin Metal Laminating	6.5 780
Tire Repair	0.8 100
Waterproof Resorcinol Glue	1.4 170
Adhesive Primer Application Processes	
Motor Vehicle Glass Bonding Primer	7.5 900
Plastic Solvent Welding Adhesive Primer	5.4 650
Single-Ply Roof Membrane Adhesive Primer	2.1 250
Other Adhesive Primer	2.1 250