

RULE 67.6.1 COLD SOLVENT CLEANING AND STRIPPING OPERATIONS
(Adopted & Effective 5/23/07)

(a) **APPLICABILITY**

(1) Except as provided in Section (b), this rule is applicable to all cold solvent cleaning and all stripping operations.

(2) Any cleaning of application equipment is not subject to this rule.

(3) Any dry cleaning operation subject to or exempt from the *Airborne Toxic Control Measure for Emissions of Perchloroethylene from Dry Cleaning Operations* or subject to or exempt from Rule 67.2 is not subject to this rule.

(4) Wipe cleaning operations are not subject to this rule.

(5) Rule 66 shall not apply to any cold solvent cleaning or stripping operation.

(b) **EXEMPTIONS**

(1) This rule shall not apply to the following:

(i) Non-immersion stripping operations subject to or exempt from Rules 67.9, 67.11, or 67.11.1.

(ii) Solvent cleaning operations regulated by the *National Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning*, 40 CFR Part 63, Subpart T.

(iii) Cold solvent cleaning or stripping operations conducted in any cold solvent tank or stripping tank with a liquid surface area of one square foot (0.09 square meters) or less, or with a capacity of one gallon (3.8 liters) or less.

(iv) Cold solvent cleaning operations conducted in any remote reservoir cleaner with a sink cross-sectional area of 1 square foot (0.09 square meters) or less.

(v) Cold solvent degreasers used exclusively for educational purposes. This exemption does not apply to degreasers used for other purposes at an educational institution.

(vi) Except for requirements for waste solvent disposal in Subsections (d)(4)(xii) or (d)(6)(x), as applicable, cold solvent cleaning or stripping operations that exclusively utilize water-based materials with a volatile organic compound (VOC) content of 50 grams per liter (g/l) of material (0.42 pounds per gallon) or less, as used.

It shall be the responsibility of any person conducting such operations to keep a current list of all cleaning materials and the VOC content of each material, as applied, to substantiate this exemption.

(2) Subsection (d)(1) shall not apply to cold solvent cleaning of electronic components, electrical components, medical devices, aerospace components, or precision optics components.

(c) **DEFINITIONS**

(1) **"Aerospace Component"** means any raw material, partial or completed fabricated part, assembly of parts, or completed unit of any aircraft, helicopter, missile, or space vehicle, including mockups, test panels and prototypes.

(2) **"Airless/Air-Tight Cleaning System"** means a system that consists of a sealed cold solvent cleaner and the devices to condense and recover solvent and emission control devices to remove solvent from all gas streams that vent to the atmosphere. The system must have no open solvent-air interface, and be designed and operated in such a manner as to prevent the discharge or leakage of solvent emissions to the atmosphere during all cleaning and drying operations.

(3) **"Application Equipment"** means equipment used to apply coatings, inks, adhesives, or resins including, but not limited to: spray guns, rollers, brushes, and printing presses.

(4) **"Batch-loaded Solvent Cleaner"** means a degreaser in which any material is placed in solvent for cleaning and removed as a single batch after the cleaning is finished. This does not include remote reservoir cleaners.

(5) **"CFR"** means Code of Federal Regulations.

(6) **"Cold Solvent Cleaning (Degreasing) Operation"** means any solvent cleaning that is conducted in a tank, drum, or other container and that uses non-boiling solvent to remove contaminants.

(7) **"Cured"** means the coating, ink, adhesive, or resin is dry to the touch.

(8) **"Degreaser"** means a tank, drum, or other container in which objects to be cleaned are exposed to a solvent, in order to remove contaminants. This includes batch-loaded solvent cleaners and remote reservoir cleaners.

(9) **"Electrical Components"** means internal components such as wires, windings, stators, rotors, magnets, contacts, relays, energizers, and connections in an apparatus that generates or transmits electrical energy including, but not limited to, generators, transformers, and electric motors.

- (10) **"Electronic Components"** means components or assemblies of components including, but not limited to, circuit card assemblies, printed wire assemblies, printed circuit boards, soldered joints, ground wires, bus bars, and other electrical fixtures, except for the cabinet in which the components are to be housed.
- (11) **"Exempt Compounds"** means the same as defined in Rule 2.
- (12) **"Existing Cold Solvent Cleaning or Stripping Operation"** means any cold solvent cleaning or stripping operation that is not new.
- (13) **"Freeboard Height"** means:
- (i) For batch-loaded solvent cleaners, the distance from the solvent-air interface to the top of the degreaser tank, based on inside tank dimensions.
 - (ii) For remote reservoir cleaners, the height from the bottom of the sink or work area to the top of the sink or work area.
- (14) **"Freeboard Ratio"** means the freeboard height divided by the smaller of the interior length or width of the degreaser tank.
- (15) **"Liquid Leak"** means any visible leak of a VOC-containing liquid at a rate in excess of three drops per minute.
- (16) **"Liquid Surface Area"** means the area of interface between the liquid solvent available for dipping and the air which is contiguous with the outside of the solvent degreaser or stripping tank.
- (17) **"Medical Device"** means an instrument, apparatus, implement, machine, contrivance, implant, in vitro reagent or other similar article including any component or accessory, that is intended for use in the diagnosis of disease or other conditions or in the cure, mitigation, treatment, or prevention of disease, or is intended to affect the structure or any function of the body.
- (18) **"New Cold Solvent Cleaning or Stripping Operation"** means any cold solvent cleaning or stripping operation for which a complete application for an Authority to Construct in San Diego County was submitted after May 23, 2007.
- (19) **"Precision Optics Components"** means the components used to create high resolution images in optical devices. This does not include eye glasses.
- (20) **"Remote Reservoir Cleaner"** means a degreaser that consists of a sink or working area and a separate solvent tank that is not accessible for soaking parts and is completely enclosed except for a solvent return opening, which allows used solvent to drain into it from the sink or work area.
- (21) **"Sealing Fluid"** means a fluid that prevents evaporation of a stripping solvent by forming a liquid or solid layer on the solvent's surface.

(22) **"Solvent"** means any substance containing an organic compound or combination of organic compounds which is liquid at atmospheric pressure and ambient temperature and which is used as a diluent, thinner, dissolver, viscosity reducer, or cleaning agent, or for other similar purposes.

(23) **"Solvent-Air Interface"** means the area of contact between the solvent and air that is contiguous with the air outside the degreaser.

(24) **"Solvent Carry-Out"** means solvent carried out of a degreaser that adheres to or is entrapped in the part being cleaned.

(25) **"Solvent Cleaning Operation"** means any solvent cleaning activity including subsequent drying that is conducted in a degreaser to remove contaminants from parts, products, tools, machinery, and/or equipment.

(26) **"Stripping Operation"** means a removal of cured coatings, inks, resins, or adhesives conducted with the use of solvents by immersion into a container such as tank or drum.

(27) **"Water-Based Material"** means any solvent that consists only of water and VOC and does not contain exempt compounds.

(28) **"Wipe Cleaning"** means the method of cleaning a surface, not conducted in a container, by physically rubbing it with a material or device such as a rag, paper, or cotton swab moistened with a solvent.

(29) **"Volatile Organic Compound (VOC)"** means any volatile compound containing at least one atom of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and exempt compounds.

(d) **STANDARDS**

(1) **VOC Content Requirements for Cold Solvent Cleaning Operations**

Except as specified in Subsection (b)(2), each solvent utilized in a cold solvent cleaning operation subject to this rule shall have a VOC content of 50 g/l (0.42 lbs/gal) of material or less, as used.

(2) **General Equipment Requirements for Cold Solvent Cleaning Operations**

A person shall not conduct a cold solvent cleaning operation unless a degreaser is equipped with all of the following.

(i) A cover that completely covers the solvent when work is not being performed in the degreaser. This includes covers for the sink or basin of a remote reservoir cleaner.

- (ii) A facility for draining parts such that the drained solvent returns to the degreaser.
- (3) Equipment Specific Requirements for Cold Solvent Cleaning Operations
- (i) A person shall not operate a batch-loaded cold solvent cleaner unless it has:
 - (A) a freeboard ratio greater than or equal to 0.5,
 - (B) a cover easily operable with one hand or mechanically assisted, and
 - (C) a readily visible, permanent mark or line indicating the maximum allowable solvent level that conforms to the freeboard ratio.
 - (ii) A person shall not operate a remote reservoir cleaner unless it has:
 - (A) a freeboard height of at least 6 inches (15 cm), and
 - (B) a sink-like work area for draining cleaned parts, which is sloped sufficiently towards the drain to preclude pooling of solvent.
- (4) Operating Requirements for Cold Solvent Cleaning Operations

A person shall not conduct a cold solvent cleaning operation without meeting all of the following requirements.

- (i) A permanent, conspicuous, legible label listing the applicable operating requirements is posted on or near the degreaser.
- (ii) The solvent degreaser and any emission control system are properly installed and maintained in proper working order.
- (iii) Any emission control system is properly operating at all times when parts are being cleaned.
- (iv) The required cover is not removed except to process work or to perform maintenance.
- (v) There are no liquid leaks from any portion of the degreaser. Upon detection of a liquid leak, the leak shall be repaired immediately, or the degreaser shall be shut down and drained in a manner that minimizes emissions.
- (vi) No porous or absorbent materials, such as cloth, leather, wood, or rope are cleaned in the degreaser.
- (vii) Solvent spraying, when necessary, is conducted by using only a continuous liquid stream (not a fine, atomized, fan, or shower type spray) at a pressure which does not cause liquid solvent to splash outside of the solvent container.

(viii) Solvent agitation, where necessary, is achieved exclusively through pump circulation or by means of a mechanical mixer or ultrasonic agitation. Air or gas agitation shall not be used.

(ix) For batch-loaded cleaners the actual solvent level is not above the marked maximum solvent level line at any time.

(x) The degreaser is not exposed to drafts greater than 131 feet (40 meters) per minute.

(xi) Solvent carry-out is minimized by all of the following methods:

(A) allowing for full drainage by racking parts or other means;

(B) tipping out any pools of solvent from the cleaned parts before removal; and

(C) allowing parts to dry within the degreaser until visually dry or dripping ceases.

(xii) Waste solvent and contaminated residue, if any, shall be recycled or disposed of according to requirements based on the California Health and Safety Code, Division 20, Chapter 6.3 (beginning at Section 25100) concerning hazardous waste disposal.

(5) Equipment Requirements for Stripping Operations

A person shall not operate stripping equipment unless it is equipped with all of the following.

(i) A cover that completely covers the solvent when work is not processed in the tank.

(ii) A facility for draining parts such that the drained solvent returns to the container.

(iii) A readily visible, permanent mark or line indicating the maximum allowable solvent level that conforms to the freeboard ratio in Subsection (d)(5)(iv) below, unless a sealing fluid is used.

(iv) Stripping equipment has:

(A) a freeboard ratio greater than or equal to 0.75; or

(B) a sealing fluid.

(6) Operating Requirements for Stripping Operations

A person shall not conduct a stripping operation without meeting all of the following requirements.

(i) A permanent, conspicuous, legible label listing the applicable operating requirements is posted on or near the stripping operation.

(ii) The stripping equipment and any emission control system are properly installed and maintained in proper working order.

(iii) Any emission control system is properly operating at all times when parts are being stripped.

(iv) The required cover is not removed except to process work or to perform maintenance.

(v) There are no liquid leaks from any portion of the stripping equipment. Upon detection of a liquid leak, the leak shall be repaired immediately, or the stripping tank drained and taken out of service, in a manner that minimizes emissions.

(vi) Solvent is not above the marked maximum solvent level line, unless a sealing fluid is used.

(vii) Solvent carry-out is minimized by all of the following methods:

(A) allowing for full drainage by racking parts or by other means;

(B) tipping out any pools of solvent from the stripped parts before removal; and

(C) allowing parts to dry within the stripping equipment until visually dry or dripping ceases.

(viii) Solvent agitation, where necessary, is achieved exclusively through pump circulation or by means of a mechanical mixer or ultrasonic agitation. Air or gas agitation shall not be used.

(ix) Solvent spraying, when necessary, is conducted by using only a continuous fluid stream (not a fine, atomized, fan, or shower type spray) at a pressure which does not cause liquid solvent to splash outside of the solvent container.

(x) Waste solvent and contaminated residue, if any, shall be recycled or disposed of according to requirements based on the California Health and Safety Code, Division 20, Chapter 6.3 (beginning at Section 25100) concerning hazardous waste disposal.

(e) **CONTROL EQUIPMENT**

(1) In lieu of complying with the requirements in Subsections (d)(1), (d)(2), and (d)(3) an owner/operator may use an airtight/airless cold solvent cleaner provided that all of the following requirements are met:

(i) The equipment is operated in accordance with the manufacturer's specifications and with a door or other pressure sealing apparatus in place during all cleaning and drying cycles;

(ii) All associated pressure relief devices do not allow liquid solvents to drain out. Spills during any solvent transfer shall be cleaned up immediately;

(iii) A differential pressure gauge is installed to indicate the sealed chamber pressure;

(iv) The equipment complies with all applicable operating requirements of Subsection (d)(4).

(2) In lieu of complying with the requirements of Subsections (d)(1), (d)(2), (d)(3), and (d)(5) a person conducting a cold solvent cleaning or stripping operation may use an air pollution control system which:

(i) Has been installed in accordance with an Authority to Construct; and

(ii) Has a combined emissions capture and control efficiency of at least 85% by weight.

(3) A person electing to use control equipment pursuant to Subsection (e)(2) shall submit to the Air Pollution Control Officer for approval an Operation and Maintenance plan for the proposed emission control and collection system and receive approval prior to operation of the control equipment. Thereafter, the plan can be modified, with Air Pollution Control Officer approval, as necessary to ensure compliance. Such a plan shall:

(i) Identify all key system operating parameters. Key system operating parameters are those necessary to ensure compliance with Subsection (e)(2)(ii), such as temperature and/or pressure;

(ii) Include proposed inspection schedules, anticipated ongoing maintenance, and proposed recordkeeping practices regarding the key system operating parameters; and

(iii) Upon approval by the Air Pollution Control Officer, a person subject to the requirements of Subsection (e)(2) shall implement the Operation and Maintenance plan and shall comply with all the provisions of the approved plan.

(f) RECORDKEEPING REQUIREMENTS

(1) Any person conducting a cold solvent cleaning or stripping operation subject to this rule shall maintain the following records:

(i) A current list of solvents and sealing fluids in use, which provides all of the data necessary to evaluate compliance, including but not limited to:

(A) Manufacturer name and identification for each solvent, and

(B) VOC content of solvent expressed in g/l (lbs/gal) of material as used, and density and mix ratios for each solvent.

(2) Any person using control equipment pursuant to Section (e) of this rule shall:

(i) Maintain records in accordance with the requirements of Subsection (f)(1); and

(ii) Maintain daily records of key system operating parameters as approved in the Operation and Maintenance plan pursuant to Subsection (e)(3). Such records shall be sufficient to document continuous compliance with Subsection (e)(2)(ii) during periods of emission producing activities.

All records shall be retained on site for at least three years and shall be made available to the District upon request.

(g) TEST METHODS

(1) The VOC content of cleaning materials shall be determined by the South Coast Air Quality Management District (SCAQMD) Method 313 (Determination of Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry), SCAQMD Method 308 (Quantitation of Compounds by Gas Chromatography), or any other test methods approved by the Environmental Protection Agency (EPA), California Air Resources Board (ARB), and the Air Pollution Control District.

(2) The overall control efficiency of air pollution control equipment operated pursuant to Subsection (e)(2)(ii) shall be determined by multiplying the capture efficiency of the emission collection system by the control efficiency of the air pollution control device. The control efficiency of the air pollution control device shall be determined using EPA Test Methods 18 and 25 or 25A (40 CFR 60, Appendix A) and in accordance with a protocol approved by the Air Pollution Control Officer. Capture efficiency shall be determined according to EPA Test Method 204. Subsequent to the initial compliance demonstration period, appropriate key system operating parameters as determined by the Air Pollution Control Officer may be used as indicators of the performance of the emission control system.

(h) COMPLIANCE SCHEDULE

(1) All new cold solvent cleaning or stripping operations shall comply with the applicable requirements of this rule upon initial startup.

(2) All existing cold solvent cleaning or stripping operations shall comply with the applicable requirements of this rule not later than May 23, 2008.

(3) The owner or operator of existing cold solvent cleaning or stripping equipment that will require modifications pursuant to the requirements of Subsections (d)(1), (d)(3), and/or (d)(5), except for those switching to a water-based solvent with a VOC content 50 g/l or less shall:

(i) By November 23, 2007, submit to the Air Pollution Control Officer an application to modify a Permit to Operate for complying with the applicable requirements of Subsections (d)(1), (d)(3), and/or (d)(5).

(ii) By May 23, 2008, comply with all applicable rule requirements.

(4) The owner or operator of existing cold solvent cleaning or stripping equipment that chooses to comply with the rule by installing air pollution control equipment pursuant to Section (e) of this rule shall comply with the following increments of progress:

(i) By November 23, 2007, submit to the Air Pollution Control Officer an application for an Authority to Construct and a Permit to Operate an air pollution control system as specified in Section (e).

(ii) By May 23, 2008, comply with all applicable rule requirements.