

(Adopted May 7, 1976)(Amended September 2, 1977)(Amended March 3, 1978)
(Amended July 6, 1979)(Amended March 5, 1982)(Amended December 15, 2000)

RULE 442 - USAGE OF SOLVENTS

(a) Purpose

The purpose of this rule is to reduce emissions of Volatile Organic Compounds (VOCs) from VOC-containing materials or equipment not subject to the VOC limits in any Regulation XI rule.

(b) Applicability

This rule applies to any person using VOC-containing materials or equipment that emit Volatile Organic Compounds (VOCs), and are not subject to VOC limits in any Regulation XI rule. VOC-containing materials include, but are not limited to, coatings, resins, adhesives, inks, solvents, thinners, diluents, mold seal and release compounds, lubricants, cutting oils and quenching oils. Equipment and materials include, but are not limited to, coating, adhesive, and ink application equipment, metal forming, casting, or forging operations.

(c) Definitions

For the purpose of this rule, the following definitions shall apply:

- (1) AEROSOL PRODUCT is a hand held, non-refillable container that expels pressurized materials by means of a propellant-induced force.
- (2) FACILITY means any source or group of sources or other air contaminant-emitting activities which are located on one or more contiguous properties within the District, in actual physical contact or separated solely by a public roadway or other public right-of-way, and are owned or operated by the same person (or by persons under common control), or an outer continental shelf (OCS) source as determined in 40 CFR Section 55.2. Such above-described groups, if noncontiguous, but connected only by land carrying a pipeline, shall not be considered one facility. Sources or installations involved in crude oil and gas production in Southern California Coastal or OCS Waters and transport of such crude oil and gas in Southern California Coastal or OCS Waters shall be

included in the same facility which is under the same ownership or use entitlement as the crude oil and gas production facility on-shore.

- (3) VOLATILE ORGANIC COMPOUND (VOC) is as defined in Rule 102.
- (4) VOC-CONTAINING MATERIAL is any VOC-containing product including, but not limited to, coatings, resins, adhesives, inks, solvents, thinners, diluents, mold seal and release compounds, lubricants, cutting and quenching oils.
- (5) SOLVENT means ORGANIC SOLVENT as defined in Rule 102.

(d) Requirements

- (1) On or before December 31, 2002, a person shall not discharge organic materials into the atmosphere from equipment in which organic solvents or materials containing organic solvents are used, unless such emissions have been reduced by at least 85 percent or to the following:
 - (A) Organic materials that come into contact with flame or are baked, heat cured or heat polymerized, are limited to not to exceed 6.5 kilograms (14.3 pounds) per day.
 - (B) Organic materials emitted into the atmosphere from the use of photochemically reactive solvents are limited to 18 kilograms (39.6 pounds) per day, except as provided in subparagraph (d)(1)(A).
 - (C) Organic materials emitted into the atmosphere from the use of non-photochemically reactive solvents are limited to 272 kilograms (600 pounds) per day except as provided in subparagraph (d)(1)(A).
- (2) Effective January 1, 2003, a person shall not emit VOCs to the atmosphere from all VOC-containing materials, equipment or processes subject to this rule, in excess of 833 pounds per month per facility. Emissions may be reduced through the use of the following:
 - (A) Product reformulation or substitution, process changes, improvement of operational efficiency, and/or the development of innovative technology; or
 - (B) Any combination of emission control device and subparagraph (d)(2)(A) provided that the operator submits an Alternative Compliance Plan that is approved by the Executive Officer. The Executive Officer shall not approve an alternative compliance

plan, unless the plan has demonstrated real, quantifiable, and verifiable emission reductions.

- (3) In lieu of paragraph (d)(2), a person may install an emission control device operated in accordance with subdivision (e).

(e) Control Equipment

A person may comply with paragraphs (d)(1) or (d)(2) by using a VOC emission collection and control system that reduces overall emissions by 85 percent as follows:

- (1) the emission collection and control system shall capture at least 90 percent, by weight, of the emissions generated by the equipment, material, or operation and
 - (A) have a destruction efficiency of at least 95 percent, by weight, or
 - (B) have an output of less than 50 parts per million (PPM) calculated as carbon with no dilution.

(f) Test Methods

For the purpose of this rule, the following test methods shall be used, or any other test methods approved by the California Air Resources Board, the United States Environmental Protection Agency, and the District.

- (1) Determination of VOC Content in Solvent-containing materials

The VOC content of VOC-containing materials subject to the provisions of this rule shall be determined by the following methods:

 - (A) United States Environmental Protection Agency (USEPA) Reference Method 24 (Code of Federal Regulations, Title 40, Part 60, Appendix A). The exempt compounds' content shall be determined by the South Coast Air Quality Management District's (SCAQMD) Method 303 (Determination of Exempt Compounds) contained in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples" manual; or,
 - (B) SCAQMD Method 304 [Determination of Volatile Organic Compounds (VOC) in Various Materials] contained in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples" manual.
 - (C) Exempt Perfluorocarbon Compounds

The following classes of compounds: cyclic, branched, or linear, completely fluorinated alkanes; cyclic, branched, or linear, completely fluorinated ethers with no unsaturations; cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine, will be analyzed as exempt compounds for compliance with subdivision (d), only when manufacturers specify which individual compounds are used in the solvent formulation and identify the United States Environmental Protection Agency, California Air Resources Board, and the District approved test methods used to quantify the amount of each exempt compound.

(2) Determination of Presence of VOC in Clean-up Materials

The presence of VOC in the headspace over the cleaning material shall be determined by SCAQMD Method 313 [Determination of Presence of Volatile Organic Compounds (VOC) in a Headspace] contained in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples" manual.

(3) Determination of Efficiency of Emission Control Systems

(A) The capture efficiency of the capture system for purposes of determining overall efficiency shall be determined by verifying the use of a Permanent Total Enclosure (PTE) and 100% capture efficiency as defined by U.S. EPA Method 204, "Criteria for and Verification of a Permanent or Temporary Total Enclosure." Alternatively, if a US EPA Method 204 defined PTE is not employed, capture efficiency shall be determined using a minimum of three sampling runs subject to data quality criteria presented in the US EPA technical guidance document "Guidelines for Determining Capture Efficiency, January 9, 1995." Individual capture efficiency test runs subject to the US EPA technical guidelines shall be determined by:

- (i) The Temporary Total Enclosure (TTE) approach of US EPA Methods 204 through 204F; or
- (ii) The District "Protocol for Determination of Volatile Organic Compounds (VOC) Capture Efficiency."

- (B) The control device efficiency of an emission control system on a mass emissions basis and the VOC concentrations in the exhaust gases, measured and calculated as carbon, shall be determined by US EPA Test Methods 25, 25A, District Method 25.1 - Determination of Total Gaseous Non-Methane Organic Emissions as Carbon, or District Method 25.3 - Determination of Low Concentration Non-Methane Non-Ethane Organic Compound Emissions from Clean Fueled Combustion Sources, as applicable. US EPA Test Method 18 or ARB Method 422 shall be used to determine emissions of exempt compounds.
- (C) The overall efficiency of an emission collection and control system shall be determined using the following equation (all efficiencies expressed in percent):

$$\text{Overall Efficiency} = (\text{Capture Efficiency}) \times (\text{Control Device Efficiency}) / 100$$

(3) Multiple Test Methods

When more than one test method or set of test methods are specified for any testing, the application of these methods to a specific set of test conditions is subject to approval by the Executive Officer. In addition, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of the rule.

- (4) All test methods referenced in this section shall be the most recent version as approved by the USEPA.

(g) Recordkeeping Requirements

Usage records for all VOC-containing materials subject to this rule shall be maintained pursuant to Rule 109. Such records shall be retained for two years and shall be made available at the request of the Executive Officer or his representative. A person who complies with the requirement of (d)(2) before January 1, 2003 may keep daily or monthly records in accordance with Rule 109.

(h) Storage and Disposal

All VOC-containing materials subject to this rule, whether in its form for intended use or as a waste or used product, shall be stored in non-absorbent, non-leaking containers which shall be kept closed at all times, except when filling or

emptying, and disposed of in a manner to prevent evaporation of VOCs into the atmosphere at the facility.

(i) Exemptions

(1) The provisions of this rule shall not apply to:

- (A) The manufacture, transport, or storage of organic solvents, or the transport or storage of materials containing organic solvents.
- (B) The emissions of Volatile Organic Compounds (VOCs) from VOC-containing materials or equipment which are subject to other Regulation IV rules (excluding Rule 481 - Spray Coating Operations) or which are exempt from air pollution control requirements by said rules.
- (C) The use of pesticides, including insecticides, rodenticides, or herbicides.
- (D) Aerosol products.