RULE 67.22. EXPANDABLE POLYSTYRENE FOAM PRODUCTS MANUFACTURING OPERATIONS

(Adopted & Effective: 6/7/94)

(a) APPLICABILITY

Except as otherwise provided in Section (b), this rule is applicable to any person who manufactures expandable polystyrene (EPS) foam products using volatile organic compounds (VOC's) as blowing agents. EPS foam products manufacturing operations subject to this rule shall not be subject to Rule 66.

(b) EXEMPTIONS

The requirements of Section (d) of this rule shall not apply to any stationary source with uncontrolled VOC emissions of less than 25 tons per calendar year from EPS foam products manufacturing operations.

(c) DEFINITIONS

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

(1) **"Blowing Agent"** means a liquid or gaseous volatile organic compound that facilitates the formation of an EPS foam product from polymeric raw materials.

(2) **"Exempt Compound"** means any of the following compounds or classes of compounds: 1,1,1-trichloroethane, methylene chloride, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), trifluoromethane (HFC-23), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), chloropentafluoroethane (CFC-115), chlorodifluoromethane (HCFC-22), dichlorotrifluoroethane (HCFC-123), dichlorofluoroethane (HCFC-141b), 1,1,1,2-tetrafluoroethane (HFC-134a), 1,1,2,2-tetrafluoroethane (HFC-134), chlorodifluoroethane (HCFC-142b), 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124), pentafluoroethane (HFC-125), 1,1,1-trifluoroethane (HFC-143a), 1,1-difluoroethane (HFC-152a), and the following four classes of perfluorocarbon (PFC) compounds:

(i) cyclic, branched, or linear, completely fluorinated alkanes;

(ii) cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;

(iii) cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and

(iv) sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

(3) **"Existing Equipment"** means any EPS foam products manufacturing equipment for which an Authority to Construct or Permit to Operate was issued before June 7, 1994.

(4) **"EPS Foam Products"** means low-density foam products which are manufactured from a series of processes where raw polymeric materials such as polystyrene beads containing a blowing agent are expanded by exposure to steam or any other expansion

agent and subsequently molded into the final products. EPS foam products include, but are not limited to, drinking cups, insulation boards, packaging materials, and ice chests.

(5) **"Manufacturing Emissions"** means VOC emissions which occur during the manufacturing of EPS foam products, from the delivery of the raw polymeric materials to the manufacturing site to 24 hours after the molding of pre-expanded materials to form the final EPS foam products.

(6) **"New Equipment"** means any EPS foam products manufacturing equipment for which an Authority to Construct was issued after June 7, 1994.

(7) **"Stationary Source"** means the same as defined in Rule 20.1.

(8) **"Uncontrolled VOC Emissions"** means VOC emissions from an EPS foam products manufacturing operation, calculated according to Subsection (g)(1), before application of add-on air pollution control equipment or process modification.

(9) **"Volatile Organic Compound"** means any volatile compound containing at least one atom of carbon excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonates, and exempt compounds which may be emitted to the atmosphere from EPS foam products manufacturing operations subject to this rule.

(d) STANDARDS

A person shall not manufacture EPS foam products unless:

(1) VOC emissions from such manufacture do not exceed 3.0 pounds per 100 pounds of EPS raw polymeric materials used; or

(2) The raw polymeric materials used for such manufacture contain no more than 3.6 percent by weight of blowing agent, as indicated in product specifications from the manufacturer of the raw polymeric material.

(e) CONTROL EQUIPMENT

(1) A person subject to the provisions of Subsection (d)(1) may comply by using an air pollution control system which:

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

(ii) Includes an emission collection system which captures manufacturing emissions, and transports the captured emissions to an air pollution control device; and

(iii) Has a combined emissions capture and control device efficiency such that VOC emissions from manufacturing operations do not exceed 3.0 pounds per 100 pounds of EPS raw polymeric materials used.

(2) A person subject to the provisions of Subsection (e)(1) of this rule shall submit an Operation and Maintenance Plan for the air pollution control device and emission collection system to the Air Pollution Control Officer for approval and receive such approval prior to operation of the air pollution control equipment. Thereafter, the plan can be modified, with the Air Pollution Control Officer approval, as necessary to ensure compliance. Such plan shall:

(i) Identify all key system operating parameters. Key system operating parameters are those necessary to ensure compliance with Subsection (e)(1) such as temperatures, pressures and flow rates; and

(ii) Include proposed inspection schedules, anticipated ongoing maintenance, and proposed recordkeeping practices regarding the key system operating parameters necessary to maintain continuous compliance with the provisions of Subsection (e)(1)(iii).

(3) A person subject to the requirements of Subsection (e)(2) shall implement the plan upon approval of the Air Pollution Control Officer, and shall comply with the provisions of the approved plan thereafter.

(f) RECORDKEEPING

Any person who manufactures EPS foam products shall maintain records in accordance with the following requirements:

(1) Maintain current records of manufacturer data for the blowing agent content of EPS raw materials used.

(2) Maintain monthly records of the amount of EPS raw materials used.

(3) For control equipment, maintain daily records of the key system operating parameters specified in Subsection (e)(2)(i), which will demonstrate continuous operation and compliance of the emission control device during periods of emission producing activities.

These 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) Calculations of VOC emissions pursuant to Sections (b) and (d) and Subsection (c)(8) of this rule shall be by multiplying the quantity of EPS foam products produced by the difference between the blowing agent content of the raw polymeric materials and that of the final EPS foam products, as determined after 24 hours of storage.

(2) Measurement of the blowing agent content of raw polymeric materials and/or EPS foam products pursuant to Subsection (g)(1) of this rule shall be conducted in accordance with South Coast Air Quality Management District (SCAQMD) Test Method 306-91, "Analysis of Pentanes in Expandable Styrene Polymers." Test procedures shall be performed in accordance with a protocol approved by the Air Pollution Control Officer. An alternative test method may be used provided such method has been approved, in advance, by the Air Pollution Control Officer, California Air Resources Board (ARB) and federal Environmental Protection Agency (EPA).

(3) Measurement of VOC emission control device efficiency pursuant to Section (e) of this rule shall be conducted using EPA Methods 18, 25, and/or 25A (40 CFR 60, Appendix A), as they exist on June 7, 1994. Test procedures shall be performed in accordance with a protocol approved by the Air Pollution Control Officer.

(4) Measurements of capture efficiency pursuant to Section (e) of this rule shall be conducted using test methods as provided in Subsections (g)(1), (g)(2) and (g)(3). Test

procedures shall be performed in accordance with a protocol approved by the Air Pollution Control Officer. 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 collection system.

(h) COMPLIANCE SCHEDULE

(1) Any person operating existing equipment who is subject to the provisions of Section (d) and electing to comply with this rule by installing an air pollution control system pursuant to Section (e) shall meet the following increments of progress:

(i) By December 7, 1994, submit to the Air Pollution Control Officer an application for Authority to Construct and Permit to Operate an air pollution control system meeting the requirements of Section (e).

(ii) By June 7, 1995, install an air pollution control system pursuant to Section (e).

(2) Any person operating existing equipment who is subject to the provisions of Section (d) and electing to comply with process modification shall meet the following increments of progress:

(i) By December 7, 1994, submit to the Air Pollution Control Officer an application for Authority to Construct and Permit to Operate new or modified equipment necessary to comply with Section (d).

(ii) By June 7, 1995, install new or modified equipment necessary to comply with Section (d).

(3) Any person installing new equipment who is subject to the provisions of Section (d) shall comply with the provisions of Section (d) upon startup.