

AIR POLLUTION CONTROL REGULATION NO. 31
CONTROL OF VOLATILE ORGANIC COMPOUNDS FROM
COMMERCIAL AND CONSUMER PRODUCTS

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**RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
DIVISION OF AIR RESOURCES
AIR POLLUTION CONTROL REGULATION NO. 31**

**CONTROL OF VOLATILE ORGANIC COMPOUNDS FROM
COMMERCIAL AND CONSUMER PRODUCTS**

31. Control of Volatile Organic Compounds from Commercial and Consumer Products

31.1 Definitions

As used in these regulations, the following terms shall, where the context permits, be construed as follows:

31.1.1 "Commercial and Consumer Product" means a chemically formulated product sold retail or wholesale and used by household, commercial, and/or institutional consumers including, but not limited to, detergents, cleaning compounds, polishes, floor finishes, cosmetics, personal care products, disinfectants, sanitizers, and automotive specialty products but not including paints, furniture coatings or architectural coatings.

31.1.2 "Volatile Organic Compound" and "VOC" means any organic compound which participates in atmospheric photochemical reactions. This includes any organic compound other than the following compounds:

- (a) acetone
- (b) CFC-11 (trichlorofluoromethane)
- (c) CFC-12 (dichlorodifluoromethane)
- (d) CFC-113 (1,1,1-trichloro 2,2,2-trifluoroethane)
- (e) CFC-114 (1,2-dichloro 1,1,2,2-tetrafluoroethane)
- (f) CFC-115 (chloropentafluoroethane)
- (g) ethane
- (h) HCFC-22 (chlorodifluoromethane)
- (i) HCFC-123 (1,1,1-trifluoro 2,2-dichloroethane)
- (j) HCFC-124 (2-chloro 1,1,1,2-tetrafluoroethane)
- (k) HCFC-141b (1,1-dichloro 1-fluoroethane)
- (l) HCFC-142b (1-chloro 1,1-difluoroethane)
- (m) HFC-23 (trifluoromethane)
- (n) HFC-125 (pentafluoroethane)
- (o) HFC-134 (1,1,2,2-tetrafluoroethane)
- (p) HFC-134a (1,1,1,2-tetrafluoroethane)
- (q) HFC-143a (1,1,1-trifluoroethane)

- (r) HFC-152a (1,1-difluoroethane)
- (s) methane
- (t) methyl chloroform (1,1,1-trichloroethane)
- (u) methylene chloride (dichloromethane)
- (v) parachlorobenzotrifluoride (PCBTf)
- (w) volatile methyl siloxanes (VMS)
- (x) The perfluorocarbon compounds which fall into these classes:
 - (1) Cyclic, branched, or linear, completely fluorinated alkanes;
 - (2) Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
 - (3) Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and
 - (4) Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

These compounds have been determined to have negligible photochemical reactivity. For purposes of determining compliance with emission limits, VOC will be measured by the approved test methods. Where such a method also inadvertently measures compounds with negligible photochemical reactivity, as defined above, an owner or operator may exclude these negligible photochemical reactive compounds when determining compliance with an emissions standard. Exempt solvents will not be considered as a VOC in "percent VOC by weight" calculations.

31.1.3 "Halogenated Organic Compound" and "HOC" means the following compounds:

- (a) CFC-11 (trichlorofluoromethane)
- (b) CFC-12 (dichlorodifluoromethane)
- (c) CFC-113 (1,1,1-trichloro 2,2,2-trifluoroethane)
- (d) CFC-114 (1,2-dichloro 1,1,2,2-tetrafluoroethane)
- (e) CFC-115 (chloropentafluoroethane)
- (f) HCFC-22 (chlorodifluoromethane)
- (g) HCFC-123 (1,1,1-trifluoro 2,2-dichloroethane)
- (h) HCFC-124 (2-chloro 1,1,1,2-tetrafluoroethane)
- (i) HCFC-141b (1,1-dichloro 1-fluoroethane)
- (j) HCFC-142b (1-chloro 1,1-difluoroethane)
- (k) methyl chloroform (1,1,1-trichloroethane)
- (l) methylene chloride (dichloromethane)

31.1.4 "Aerosol Product" means a pressurized spray system that dispenses product ingredients by means of a propellant or mechanically induced force. Aerosol products do not include pump sprays.

31.1.5 "Air Freshener" means any commercial and consumer product including, but not limited to, sprays, wicks, powders, and crystals, formulated for the purpose of masking of odors, or freshening, cleaning, scenting or deodorizing the air. The presence of and representations about a product's fragrance and ability, resulting from surface application, to deodorize or eliminate odors shall not constitute a claim of air freshening. Air fresheners include dual purpose air freshener/disinfectant products which are represented by the manufacturer as being appropriate for spraying into the air instead of or in addition to surface application. Air fresheners do not include products that are used on the human body, or products that function primarily as cleaning products as indicated on a product label or advertisement.

31.1.6 "Antiperspirant" means any product including, but not limited to, aerosols, roll-ons, sticks, pumps, pads, creams, and squeeze bottles, that is intended by the manufacturer to be used to reduce perspiration in the human axilla by at least 20 percent in at least fifty percent of the target population.

31.1.7 "Architectural Coating" means any coating which is applied to stationary structures and their appurtenances, mobile homes, pavements or curbs.

31.1.8 "Bait Station Insecticide" means a container containing not more than 0.5 ounces of an insecticidal bait, in which the bait is designed to be ingested by insects and is composed of solid material feeding stimulants with less than 5.0% active ingredients.

31.1.9 "Crawling Bug Insecticide" means an insecticide that is formulated for use against ants, cockroaches, mites, silverfish, spiders, and other household arthropods. Crawling Bug Insecticides do not include products designed to be used exclusively on humans or animals.

31.1.10 "Deodorant" means any product including, but not limited to, aerosols, roll-ons, sticks, pumps, pads, creams, and squeeze bottles, that is intended by the manufacturer to be used to minimize odor in the human axilla by retarding the growth of bacteria which cause the decomposition of perspiration.

31.1.11 "Disinfectant" means a product that is formulated to destroy or inactivate infectious, or otherwise undesirable, bacteria, pathologic fungi, or viruses on surfaces or inanimate objects and that is registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Disinfectants do not include products designed solely for use on humans or animals; in swimming pools, therapeutic tubs, or hot tubs; for agricultural use; or for use as bathroom and tile cleaners, glass cleaners, general purpose cleaners, toilet bowl cleaners or metal polishes.

31.1.12 "Double Phase Aerosol" means an aerosol product in which the liquid contents is

in two or more distinct phases and which requires the product container to be shaken before use to mix the phases, producing an emulsion.

31.1.13 "Dual Purpose Air Freshener/Disinfectant" means a commercial and consumer product which is represented on the product container, or on any sticker, label, packaging, or literature attached to the product container, as being appropriate for use as both a disinfectant and an air freshener and which is consistent with both the definition of "disinfectant" and the definition of "air freshener" specified in this regulation.

31.1.14 "Engine Degreaser" means a specialty cleaning product which is formulated to remove grease, oil, dirt, or other contaminants from the external surfaces of engines and other mechanical parts.

31.1.15 "Existing Antiperspirant and Deodorant Products" means any antiperspirant or deodorant product which is:

- (a) Sold, supplied, manufactured or offered for sale in Rhode Island prior to the effective date of this regulation; or
- (b) Identical in formulation to an antiperspirant or deodorant product sold, supplied, or offered for sale in Rhode Island prior to the effective date of this regulation; or
- (c) Identical in formulation to a product sold, supplied, manufactured, or offered for sale in Rhode Island prior to the effective date of the regulation except that the ethanol content has been reduced without increasing the HVOC or MVOC content of the product.

31.1.16 "Flea and Tick Insecticide" means any insecticide that is designed for use against fleas, ticks, their larvae, or their eggs. Flea and Tick Insecticides do not include products that are designed to be used exclusively on humans or animals or their bedding.

31.1.17 "Flexible Flooring Material" means asphalt, cork, linoleum, no wax rubber, seamless vinyl, and vinyl composite flooring.

31.1.18 "Floor Polish/Wax" means a wax, polish, or any other product designed to polish, protect, or enhance floor surfaces by leaving a protective coating that is designed to be periodically replenished. Floor polishes/waxes do not include spray buff products, products designed solely for the purpose of cleaning floors, floor finish strippers, products designed for unfinished wood floors, and architectural coatings.

31.1.19 "Flying Bug Insecticide" means any insecticide product that is designed for use against flying insects and or other flying arthropods, included but not limited to flies,

mosquitoes, moths or gnats. Flying bug insecticides do not include wasp and hornet insecticides, or products that are designed to be used exclusively on humans or animals.

31.1.20 "Fragrance" means a substance or complex mixture of aroma chemicals, natural essence oils, and other functional components with a combined vapor pressure not in excess of 2mm of Hg at 20°C, the sole purpose of which is to impart an odor or scent, or to counteract a malodor.

31.1.21 "Furniture Maintenance Product" means a wax, polish, conditioner, or any other product designed for the purpose of polishing, protecting or enhancing finished wood surfaces other than floors. Furniture maintenance products do not include dusting aids, products designed exclusively for the purpose of cleaning, and products designed to leave a permanent finish such as stains, sanding sealers and lacquers.

31.1.22 "Gel" means a colloid in which the disperse phase has combined with the continuous phase to produce a semisolid material, such as a jelly.

31.1.23 "General Purpose Cleaner" means any product designed for general all purpose cleaning, in contrast to cleaning products designed to clean specific substrates or for specific situations. General purpose cleaners include products designed for general floor cleaning, kitchen or countertop cleaning, and cleaners designed to be used on a variety of hard surfaces, but do not include engine degreasers.

31.1.24 "Glass Cleaner" means a cleaning product designed primarily for cleaning surfaces made of glass. Glass cleaners do not include products designed solely for the purpose of cleaning optical materials used in eyeglasses, photographic equipment, scientific equipment and photocopying machines.

31.1.25 "Hair Mousse" means a hairstyling foam designed to facilitate styling of a coiffure and provide limited holding power.

31.1.26 "Hair Spray" means a commercial and consumer product designed primarily for the purpose of dispensing droplets of a resin on and into a hair coiffure to establish or retain the style for a period of time.

31.1.27 "Hair Styling Gel" means a high viscosity, often gelatinous, product that contains a resin and is designed for application to hair to aid in styling and sculpturing of the hair coiffure.

31.1.28 "High Volatility Organic Compound (HVOC)" means any organic compound that exerts a vapor pressure greater than 80 mm Hg when measured at 20°C.

31.1.29 "Insecticide" means a pesticide product that is designed for use against insects or

other arthropods found in or around the household.

31.1.30 "Insecticide Fogger" means any insecticide product designed to release all or most of its content, as a fog or mist, into indoor areas during a single application.

31.1.31 "Label" means any written, printed, or graphic matter affixed to, applied to, attached to, blown onto, formed, molded onto, embossed on, or appearing upon any commercial and consumer product or commercial and consumer product package, for the purposes of branding, identifying, or giving information with respect to the product or to the contents of the package.

31.1.32 "Lawn and Garden Insecticide" means an insecticide product designed primarily to be used in household lawn and garden areas to protect plants from insects and other arthropods.

31.1.33 "Medium Volatility Organic Compound (MVOC)" means any organic compound that exerts a vapor pressure greater than 2 mm Hg and less than or equal to 80 mm Hg when measured at 20°C.

31.1.34 "Nail Polish" means any clear or colored coating designed for application to the fingernails or toenails and including, but not limited to, lacquers, enamels, acrylics, base coats and top coats.

31.1.35 "Nail Polish Remover" means a product designed to remove nail polish and coating from fingernails or toenails.

31.1.36 "Non-aerosol Product" means any product that is not dispensed by a pressurized spray system.

31.1.37 "Nonresilient Flooring" means flooring of a mineral content which is not flexible and includes terrazzo, marble, slate, granite, brick, stone, ceramic tile and concrete.

31.1.38 "Oven Cleaner" means any cleaning product designed to clean and to remove dried food deposits from oven walls.

31.1.39 "Person" means an individual, trust, firm, joint stock company, corporation (including quasi-governmental corporation), partnership, association, syndicate, municipality, municipal or state agency, fire district, club, non-profit agency or any subdivision, commission, department, bureau, agency or department of state or federal government (including quasi-governmental corporation) or of any interstate body.

31.1.40 "Pesticide" means any substance or mixture of substances labeled, designed or intended for use as a defoliant, desiccant, or plant regulator, provided that the term

"pesticide" does not include any substance, mixture of substances or device which the Environmental Protection Agency does not consider to be a pesticide.

31.1.41 "Principal Display Panel or Panels" means that part, or those parts, of a label that are so designed as to most likely be displayed, presented, shown or examined under normal and customary conditions of display or purchase. Whenever a principal display panel appears more than once, all requirements pertaining to the "principal display panel" shall pertain to all such "principal display panels."

31.1.42 "Pump Spray" means a packaging system in which the product ingredients within the container are not under pressure and in which the product is expelled only while a pumping action is applied to a button, trigger or other actuator.

31.1.43 "Roll-on Product" means a commercial and consumer product that dispenses active ingredients by rolling a wetted ball or wetted cylinder on the affected area.

31.1.44 "Single Phase Aerosol" means an aerosol in a single homogeneous phase and which does not require that the product be shaken before use.

31.1.45 "Solid or Paste Form Furniture Maintenance Product" means a furniture maintenance product which contains waxes and which is applied by being rubbed onto a surface and then wiped off after drying occurs. Aerosol, liquid, and pump-spray furniture maintenance products are not included in this category.

31.1.46 "Stick Product" means a commercial and consumer product that contains active ingredients in a solid matrix form, and that dispenses the active ingredients by frictional action on the affected area.

31.2 Applicability and Exemptions

31.2.1 The provisions of this regulation apply to any person who sells, offers for sale, or manufactures for sale within Rhode Island, any commercial and consumer product that is specified in Section 31.3.

31.2.2 Wherever the term Volatile Organic Compound or VOC is used in Sections 31.2 through 31.5, this term should be read as Volatile Organic Compound and Halogenated Organic Compound or VOC and HOC.

31.2.3 The provisions of this regulation do not apply to the following:

- (a) Any product that is sold, offered for sale or manufactured in Rhode Island for shipment and use outside of Rhode Island;

- (b) Any product manufactured prior to the date specified in Subsection 31.5.3 which is sold or offered for sale until 18 months after that date, provided that the product is labelled with the date that the contents were manufactured or a date code indicating the date of manufacture of the contents in accordance with the requirements of Subsection 31.4.1;
- (c) Air fresheners and flying bug insecticides which contain at least 98% para-dichlorobenzene;
- (d) Air fresheners comprised entirely of fragrance, non-volatile compounds, inorganic compounds, and the compounds specified in Subsection 31.2.3(g);
- (e) Fragrances contained in a commercial and consumer product up to a combined level of 2% by weight of the product;
- (f) Ethanol in existing antiperspirant and deodorant products shall not be considered a MVOC for the purposes of this regulation, however no existing product may be reformulated to increase the product's total ethanol content. An existing product may be reformulated to reduce the product's total ethanol content as long as the reformulation does not increase the product's total HVOC content;
- (g) Volatile organic compounds which exert a vapor pressure of less than 0.1 mm of mercury, when measured at 20°C and 760 mm of mercury or, if the vapor pressure is unknown, consist of more than 12 carbon atoms; and
- (h) Bait station insecticides.

31.2.4 Commercial and consumer products which have been granted an exemption to the California Air Resources Board (CARB) Consumer Products Regulation, under the Innovative Products provisions in Subchapter 8.5, Article 2, Section 94511, or Subchapter 8.5, Article 1, Section 94503.5 of Title 17 of the California Code of Regulations shall be exempt from Section 31.3 for the period of time that the CARB Innovative Products exemption remains in effect. Any manufacturer claiming such an exemption must submit to the Division a copy of the CARB exemption decision, including all conditions established by CARB applicable to the exemption, the date specified in Subsection 31.5.3 or by the date that the product is first marketed in Rhode Island, whichever is later.

31.3 Emission Limitations

31.3.1 No person shall sell, offer for sale or manufacture for sale in Rhode Island any commercial and consumer product listed below which, at the time of sale or manufacture (with those exceptions defined in Subsection 31.3.4), contains volatile organic compounds in excess of the limits specified in Table 1:

Table 1

Product Category	Percent VOC by Weight
Air Fresheners	
Single Phase Aerosols	70
Double Phase Aerosols	30
Liquids/Pump Sprays	18
Solids/Gels	3
Dual Purpose Air Freshener/ Disinfectant Aerosols	60
Bathroom and Tile Cleaners	
Aerosols	7
All Other Forms	5
Engine Degreasers	75
Floor Polishes/Waxes	
Products for Flexible Flooring Material	7
Products for Nonresilient Flooring	10
Wood Floor Wax	90
Furniture Maintenance Products	
Aerosols	25
All Other Forms except solid or Paste Forms	7
General Purpose Cleaners	10

Product Category	Percent VOC by Weight
Glass Cleaners	
Aerosols	12
All other forms	8
Hair Care Products	
Hair Sprays	80
Hair Mousses	16
Hair Styling Gels	6
Nail Polish Remover	85
Oven Cleaners	
Aerosols/Pump Sprays	8
Liquids	5
Insecticides	
Crawling Bug	40
Flea and Tick	25
Flying Bug	35
Foggers	45
Lawn and Garden	20

31.3.2 No person shall sell, offer for sale or manufacture for sale in Rhode Island any antiperspirant or deodorant which at the time of sale or manufacture (with those exceptions defined in Subsection 31.3.4), contains volatile organic compounds in excess of the limits specified in Table 2:

Table 2

Product Form	HVOC	MVOC
Aerosol antiperspirant	60	20
Aerosol deodorant	20	20
Non-aerosol product	0	0

31.3.3 If, anywhere on the principal display panel of a commercial and consumer product with the exception of antiperspirants, deodorants and general purpose cleaners, any representation is made that the product may be used as, or is suitable for use as, a commercial and consumer product for which a lower percent VOC by weight limitation is specified in this section, then the lowest percent VOC by weight limitation shall apply.

31.3.4 For commercial and consumer products which display, on the container, a statement that the contents should be diluted before use, then the percent VOC by weight limitations listed in Subsections 31.3.1-2 shall apply only after the minimum recommended dilution occurs. For the purposes of this subsection, recommended dilution shall not include a recommendation for incidental use of a concentrated product to deal with limited special applications such as hard-to-remove soils or stains.

31.4 Labeling Requirements

31.4.1 No person shall sell, offer for sale in Rhode Island, or manufacture for use in Rhode Island any product specified in Section 31.3 unless the date of manufacture of the contents or a code indicating the date of manufacture of the contents is displayed on the product. The manufacturer shall supply an explanation of each code to the Director by the date specified in Subsection 31.5.3 and, thereafter, 30 days before the use of any new code.

31.4.2 The labeling requirements in this section do not apply to commercial and consumer products which must be registered with the EPA under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).

31.5 Compliance Schedule and Compliance Demonstration/Testing

31.5.1 Each manufacturer of a commercial and consumer product subject to the requirements of this regulation shall submit to the Director by the date specified in Subsection 31.5.3 a document which certifies that each commercial and consumer product manufactured after that date and sold in Rhode Island is in compliance with this regulation. Compliance certifications for new or reformulated products introduced after the date specified in Subsection 31.5.3 shall be submitted to the Director before those products are sold or offered for sale in Rhode Island. The following information for each subject product must be included in the compliance certification and must be maintained by the manufacturer and made available to the EPA or the Division on request:

- (a) The name and address of the owner of the product brand name and the name of a designated contact person;

- (b) Any claims of confidentiality;
- (c) Commercial and consumer product brand name, category and form;
- (d) Total VOC content of the product (percent by weight);
- (e) Total content and VOC content of fragrances in the product (percent by weight);
- (f) Total HVOC and total MVOC content of deodorants and antiperspirants (percent by weight);
- (g) Total ethanol content of existing deodorants and antiperspirants (percent by weight);
- (h) Total para-dichlorobenzene content (percent by weight) of air fresheners and flying bug insecticides;
- (i) Total content (percent by weight) of VOC which exert a vapor pressure of less than 0.1 mm Hg, when measured at 20°C and 760 mm Hg or, if the vapor pressure is unknown, consist of more than 12 carbon atoms; and
- (j) For products which are exempt from Section 31.3 according to the innovative products exemption specified in Subsection 31.2.4, the product's VOC emission rate.

31.5.2 On and after 1 July 1994, the manufacturer of a commercial and consumer product shall maintain records of the amount, in pounds, of each product subject to this regulation sold in Rhode Island during the previous calendar year, and the method used to determine that amount, and shall make that information available to EPA or to the Division on request.

31.5.3 Compliance with this regulation, with the exception of Subsection 31.5.2, shall be achieved by the date 90 days after the date that the EPA notifies the Director that Rhode Island has failed to achieve a 15% reduction in VOC emissions from the 1990 emission levels, in accordance with the contingency measure provisions of Rhode Island's State Implementation Plan. New products developed after the compliance date shall be in compliance with the requirements of this regulation upon being offered for sale.

31.5.4 Compliance with the emission limitations of Subsections 31.3.1 and 31.3.2 shall be demonstrated upon request of the Director in accordance with 40 CFR 60, Appendix A, Methods 24, or 24A, or any other EPA approved method which has been accepted by the

Director. Alternatively, compliance with those limitations may be demonstrated by calculating the VOC content of a product from records of the amounts of constituents used to make the product. Manufacturers demonstrating compliance by that method must keep accurate records of the amounts and chemical composition of the individual product constituents for each batch of product manufactured.

31.5.5 Testing to demonstrate that a product or ingredient in a product is exempt from the emissions limits in this regulation in accordance with the provisions of Subsection 31.2.3 and testing to measure the concentration of such ingredients in a product shall be performed using methods acceptable to EPA and the Division.