FINAL REGULATION ORDER FOR REDUCING THE OZONE FORMED FROM AEROSOL COATING PRODUCT EMISSIONS

[Note: The amendments for this rulemaking are shown in underlined regular text to show additions and ~~strikeout~~ to indicate deletions.]

Amend Title 17, California Code of Regulations, Article 3, Aerosol Coating Products, Sections 94521-94524 and 94526, to read as follows:

94521. Definitions.

(a) For the purposes of this article, the following definitions apply:

(1) "Adhesive" means a product used to bond one surface to another.

(2) "Aerosol Coating Product" means a pressurized coating product containing pigments or resins that dispenses product ingredients by means of a propellant, and is packaged in a disposable can for hand-held application, or for use in specialized equipment for ground traffic/marking applications.

(3) "Anti-Static Spray" means a product used to prevent or inhibit the accumulation of static electricity.

(4) "Art Fixative or Sealant" means a clear coating, including art varnish, workable art fixative, and ceramic coating, which is designed and labeled exclusively for application to paintings, pencil, chalk, or pastel drawings, ceramic art pieces, or other closely related art uses, in order to provide a final protective coating or to fix preliminary stages of artwork while providing a workable surface for subsequent revisions.

(5) "ASTM" means the American Society for Testing and Materials.

(6) "Auto Body Primer" means an automotive primer or primer surfacer coating designed and labeled exclusively to be applied to a vehicle body substrate for the purposes of corrosion resistance and building a repair area to a condition in which, after drying, it can be sanded to a smooth surface.

(7) "Automotive Bumper and Trim Product" means a product, including adhesion promoters and chip sealants, designed and labeled exclusively to repair and refinish automotive bumpers and plastic trim parts.

(8) "Automotive Underbody Coating" means a flexible coating which contains asphalt or rubber and is designed and labeled exclusively for use on the underbody of motor vehicles to resist rust, abrasion and vibration, and to deaden sound.

(9) “Aviation Propeller Coating” means a coating designed and labeled exclusively to provide abrasion resistance and corrosion protection for aircraft propellers.

(10) “Aviation or Marine Primer” means a coating designed and labeled exclusively to meet federal specification TT-P-1757.

(11) “Base Reactive Organic Gas Mixture” (Base ROG Mixture) means the mixture of reactive organic gases utilized in deriving the MIR scale.

(~~11~~12) “Belt Dressing” means a product applied on auto fan belts, water pump belting, power transmission belting, and industrial and farm machinery belting to prevent slipping, and to extend belt life.

(~~12~~13) “Cleaner” means a product designed and labeled primarily to remove soil or other contaminants from surfaces.

(~~13~~14) “Clear Coating” means a coating which is colorless, containing resins but no pigments except flatting agents, and is designed and labeled to form a transparent or translucent solid film.

(~~14~~15) “Coating Solids” means the nonvolatile portion of an aerosol coating product, consisting of the film forming ingredients, including pigments and resins.

(~~15~~16) “Commercial Application” means the use of aerosol coating products in the production of goods, or the providing of services for profit, including touch-up and repair.

(~~16~~17) “Corrosion Resistant Brass, Bronze, or Copper Coating” means a clear coating designed and labeled exclusively to prevent tarnish and corrosion of uncoated brass, bronze, or copper metal surfaces.

(~~17~~18) “Distributor” means any person to whom an aerosol coating product is sold or supplied for the purposes of resale or distribution in commerce, except that manufacturers, retailers, and consumers are not distributors.

(~~18~~19) “Dye” means a product containing no resins which is used to color a surface or object without building a film.

(~~19~~20) “Electrical Coating” means a coating designed and labeled exclusively as such, which is used exclusively to coat electrical components such as wire windings on electric motors to provide insulation and protection from corrosion.

(~~20~~21) “Enamel” means a coating which cures by chemical cross-linking of its base resin and is not resoluble in its original solvent.

(~~21~~22) “Engine Paint” means a coating designed and labeled exclusively to coat engines and their components.

(~~22~~23) "Exact Match Finish, Engine Paint" means a coating which meets all of the following criteria: (A) the product is designed and labeled exclusively to exactly match the color of an original, factory-applied engine paint; (B) the product is labeled with the manufacturer's name for which they were formulated; and (C) the product is labeled with one of the following: (1.) the original equipment manufacturer's (O.E.M.) color code number; (2.) the color name; or (3.) other designation identifying the specific O.E.M. color to the purchaser.

(~~23~~24) "Exact Match Finish, Automotive" means a topcoat which meets all of the following criteria: (A) the product is designed and labeled exclusively to exactly match the color of an original, factory-applied automotive coating during the touch-up of automobile finishes; (B) the product is labeled with the manufacturer's name for which they were formulated; and (C) the product is labeled with one of the following: (1.) the original equipment manufacturer's (O.E.M.) color code number; (2.) the color name; or (3.) other designation identifying the specific O.E.M. color to the purchaser. Not withstanding the foregoing, automotive clear coatings designed and labeled exclusively for use over automotive exact match finishes to replicate the original factory applied finish shall be considered to be automotive exact match finishes.

(~~24~~25) "Exact Match Finish, Industrial" means a coating which meets all of the following criteria: (A) the product is designed and labeled exclusively to exactly match the color of an original, factory-applied industrial coating during the touch-up of manufactured products; (B) the product is labeled with the manufacturer's name for which they were formulated; and (C) the product is labeled with one of the following: (1.) the original equipment manufacturer's (O.E.M.) color code number; (2.) the color name; or (3.) other designation identifying the specific O.E.M. color to the purchaser.

(~~25~~26) "Executive Officer" means the Executive Officer of the Air Resources Board, or her or his delegate.

(~~26~~27) "Flat Paint Products" means a coating which, when fully dry, registers specular gloss less than or equal to 15 on an 85^{o} gloss meter, or less than or equal to 5 on a 60^{o} gloss meter, or which is labeled as a flat coating.

(~~27~~28) "Flatting Agent" means a compound added to a coating to reduce the gloss of the coating without adding color to the coating.

(~~28~~29) "Floral Spray" means a coating designed and labeled exclusively for use on fresh flowers, dried flowers, or other items in a floral arrangement for the purposes of coloring, preserving or protecting their appearance.

(~~29~~30) "Fluorescent Coating" means a coating labeled as such, which converts absorbed incident light energy into emitted light of a different hue.

(~~30~~31) "Glass Coating" means a coating designed and labeled exclusively for use on glass or other transparent material to create a soft, translucent light effect, or to create a tinted or darkened color while retaining transparency.

(~~31~~32) "Ground Traffic/Marking Coating" means a coating designed and labeled exclusively to be applied to dirt, gravel, grass, concrete, asphalt, warehouse floors, or parking lots. Such coatings must be in a container equipped with a valve and sprayhead designed to direct the spray toward the surface when the can is held in an inverted vertical position.

(~~32~~33) "High Temperature Coating" means a coating, excluding engine paint, which is designed and labeled exclusively for use on substrates which will, in normal use, be subjected to temperatures in excess of 400^{o}F.

(~~33~~34) "Hobby/Model/Craft Coating" means a coating which is designed and labeled exclusively for hobby applications and is sold in aerosol containers of 6 ounces by weight or less.

(35) "Ingredient" means a component of an aerosol coating product.

(~~34~~36) "Ink" means a fluid or viscous substance used in the printing industry to produce letters, symbols or illustrations, but not to coat an entire surface.

(~~35~~37) "Lacquer" means a thermoplastic film-forming material dissolved in organic solvent, which dries primarily by solvent evaporation, and is resoluble in its original solvent.

(~~36~~38) "Layout Fluid" (or toolmaker's ink) means a coating designed and labeled exclusively to be sprayed on metal, glass or plastic, to provide a glare-free surface on which to scribe designs, patterns or engineering guide lines prior to shaping the piece.

(~~37~~39) "Leather preservative or cleaner" means a leather treatment material applied exclusively to clean or preserve leather.

(~~38~~40) "Lubricant" means a substance such as oil, petroleum distillates, grease, graphite, silicone, lithium, etc. that is used to reduce friction, heat, or wear when applied between surfaces.

(~~39~~41) "Manufacturer" means any person who imports, manufactures, assembles, produces, packages, repackages, or relabels a consumer product.

(~~40~~42) "Marine Spar Varnish" means a coating designed and labeled exclusively to provide a protective sealant for marine wood products.

(~~41~~43) "Maskant" means a coating applied directly to a component to protect surface areas when chemical milling, anodizing, aging, bonding, plating, etching, or performing other chemical operations on the surface of the component.

(44) "Maximum Incremental Reactivity" (MIR) means the maximum change in weight of ozone formed by adding a compound to the "Base ROG Mixture" per weight of compound added, expressed to hundredths of a gram (g O_3/g ROC). MIR values for individual compounds and hydrocarbon solvents are specified in sections 94700 and 94701, Title 17, California Code of Regulations.

(~~42~~45) "Metallic Coating" means a topcoat which contains at least 0.5 percent by weight elemental metallic pigment in the formulation, including propellant, and is labeled as "metallic", or with the name of a specific metallic finish such as "gold", "silver", or "bronze."

(~~43~~46) "Mold Release" means a coating applied to molds to prevent products from sticking to the surfaces of the mold.

(~~44~~47) "Multi-Component Kit" means an aerosol spray paint system which requires the application of more than one component (e.g. foundation coat and top coat), where both components are sold together in one package.

(~~45~~48) "Nonflat Paint Product" means a coating which, when fully dry, registers a specular gloss greater than 15 on an 85^o gloss meter or greater than five on a 60^o gloss meter.

(49) "Ozone" means a colorless gas with a pungent odor, having the molecular form O_3.

(~~46~~50) "Percent VOC By Weight" means the ratio of the weight of VOC to the total weight of the product contents expressed as follows:

Percent VOC By Weight = $(W_{\mathbf{VOC}}/ W_{\mathbf{total}})$ x 100

Where:

(A) for products containing no water and no volatile compounds exempt from the definition of VOC: $W_{\mathbf{voc}}$ = the weight of volatile compounds;
(B) for products containing water or exempt compounds: W_{voc} = the weight of volatile compounds, less water, and less compounds exempt from the VOC definition in this section 94521; and
(C) W_{total} = the total weight of the product contents.

(~~47~~51) "Photograph Coating" means a coating designed and labeled exclusively to be applied to finished photographs to allow corrective retouching, protection of the image, changes in gloss level, or to cover fingerprints.

(~~48~~52) "Pleasure Craft" means privately owned vessels used for noncommercial purposes.

(~~49~~53) "Pleasure Craft Finish Primer/Surfacer/Undercoater" means a coating designed and labeled exclusively to be applied prior to the application of a pleasure craft topcoat for

the purpose of corrosion resistance and adhesion of the topcoat, and which promotes a uniform surface by filling in surface imperfections.

(~~50~~54) "Pleasure Craft Topcoat" means a coating designed and labeled exclusively to be applied to a pleasure craft as a final coat above the waterline and below the waterline when stored out of water. This category does not include clear coatings.

(55) "Polyolefin Adhesion Promoter" means a coating designed and labeled exclusively to be applied to a polyolefin or polyolefin copolymer surface of automotive body parts, bumpers, or trim parts to provide a bond between the surface and subsequent coats.

(~~51~~56) "Primer" means a coating labeled as such, which is designed to be applied to a surface to provide a bond between that surface and subsequent coats.

(57) "Product-Weighted MIR" (PWMIR) means the sum of all weighted-MIR for all ingredients in a product subject to this article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging) and calculated according to the following equations:

(a) Weighted MIR (Wtd-MIR) ingredient = MIR x Weight fraction ingredient,

and,

(b) Product Weighted MIR = $(\text{Wtd-MIR})_1 + (\text{Wtd-MIR})_2 + \ldots + (\text{Wtd- MIR})_n$

where,

MIR = ingredient MIR, as specified in section 94522(h);

Wtd-MIR = MIR of each ingredient in a product multiplied by the weight fraction of that ingredient, as shown in (a);

1,2,3,...,n = each ingredient in the product up to the total n ingredients in the product.

(~~52~~58) "Propellant" means a liquefied or compressed gas that is used in whole or in part, such as a cosolvent, to expel a liquid or any other material from the same self-pressurized container or from a separate container.

(59) "Reactivity Limit" means the maximum "product-weighted MIR" allowed in an aerosol coating product that is subject to the limits specified in section 94522(a)(3) for a specific category, expressed as g O_3/g product.

(60) "Reactive Organic Compound (ROC)" means any compound that has the potential, once emitted, to contribute to ozone formation in the troposphere.

(~~53~~61) "Responsible Party" means the company, firm, or establishment which is listed on the product's label. If the label lists two companies, firms or establishments, the responsible party is the party which the product was "manufactured for" or "distributed by", as noted on the label.

(~~54~~62) "Retailer" means any person who sells, supplies, or offers aerosol coating products for sale directly to consumers.

(~~55~~63) "Retail Outlet" means any establishment where consumer products are sold, supplied, or offered for sale, directly to consumers.

(~~56~~64) "Rust Converter" means a product designed and labeled exclusively to convert rust to an inert material and which contains a minimum acid content of 0.5 percent by weight, and a maximum coating solids content of 0.5 percent by weight.

(~~57~~65) "Shellac Sealer" means a clear or pigmented coating formulated solely with the resinous secretion of the lac beetle (*Laccifer lacca*), thinned with alcohol, and formulated to dry by evaporation without a chemical reaction.

(~~58~~66) "Slip-Resistant Coating" means a coating designed and labeled exclusively as such, which is formulated with synthetic grit and used as a safety coating.

(~~59~~67) "Spatter Coating/Multicolor Coating" means a coating labeled exclusively as such wherein spots, globules, or spatters of contrasting colors appear on or within the surface of a contrasting or similar background.

(~~60~~68) "Stain" means a coating which is designed and labeled to change the color of a surface but not conceal the surface.

(69) "Upper-Limit Kinetic Reactivity" (ULKR) means the maximum percentage of the emitted ROC which has reacted. For this article, the ULKR is one hundred percent and is used to calculate the ULMIR.

(70) "Upper-Limit Mechanistic Reactivity" (ULMR) means the maximum gram(s) of ozone formed per gram of reactive organic compound (ROC) reacting. The ULMR is used to calculate the ULMIR.

(71) "Upper-Limit MIR" (ULMIR) means the upper-limit kinetic reactivity (ULKR) multiplied by the upper-limit mechanistic reactivity (ULMR), as calculated using the following equation:

ULMIR = Upper Limit KR x Upper Limit MR.

The units for ULMIR are g O_3/g ROC.

(~~61~~72) “Vinyl/Fabric/Leather/Polycarbonate Coating” means a coating designed and labeled exclusively to coat vinyl, fabric, leather, or polycarbonate substrates.

(~~62~~73) “Volatile Organic Compound (VOC)” means any compound containing at least one atom of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, and excluding the following:

(A) methane,
methylene chloride (dichloromethane),
1,1,1-trichloroethane (methyl chloroform),
trichlorofluoromethane (CFC-11),
dichlorodifluoromethane (CFC-12),
1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113),
1,2-dichloro-1,1,2,2-tetrafluoroethane (CFC-114),
chloropentafluoroethane (CFC-115),
chlorodifluoromethane (HCFC-22),
1,1,1-trifluoro-2,2-dichloroethane (HCFC-123),
1,1-dichloro-1-fluoroethane (HCFC-141b),
1-chloro-1,1-difluoroethane (HCFC-142b),
2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124),
trifluoromethane (HFC-23),
1,1,2,2-tetrafluoroethane (HFC-134),
1,1,1,2-tetrafluoroethane (HFC-134a),
pentafluoroethane (HFC-125),
1,1,1-trifluoroethane (HFC-143a),
1,1-difluoroethane (HFC-152a),
cyclic, branched, or linear completely methylated siloxanes,
the following classes of perfluorocarbons:
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 the sulfur bonds to carbon and fluorine, and

(B) the following low-reactive organic compounds which have been exempted by the U.S. EPA:

acetone,
ethane,
methyl acetate,
parachlorobenzotrifluoride (1-chloro-4-trifluoromethyl benzene),
perchloroethylene (tetrachloroethylene).

(~~63~~74) “Webbing/Veiling Coating” means a coating designed and labeled exclusively to provide a stranded to spider webbed appearance when applied.

(~~74~~75) “Weight Fraction” means the weight of an ingredient divided by the total net weight of the product, expressed to thousandths of a gram of ingredient per gram of product (excluding container and packaging). The weight fraction is calculated according to the following equation:

$$\text{Weight Fraction} = \frac{\text{Weight of the ingredient}}{\text{Total product net weight (excluding container and packaging).}}$$

(~~64~~76) “Weld-Through Primer” means a coating designed and labeled exclusively to provide a bridging or conducting effect for corrosion protection following welding.

(~~65~~77) “Wood Stain” means a coating which is formulated to change the color of a wood surface but not conceal the surface.

(~~66~~78) “Wood Touch-Up/Repair/Restoration” means a coating designed and labeled exclusively to provide an exact color or sheen match on finished wood products.

(~~67~~79) “Working Day” means any day between Monday through Friday, inclusive, except for days that are federal holidays.

NOTE: Authority cited: Sections 39600, 39601, and 41712, Health and Safety Code.
Reference: Sections 39002, 39600, 40000, and 41712, Health and Safety Code.

94522. ~~Standards~~ Limits and Requirements for Aerosol Coating Products.

(a)(1) Compliance with Limits. Aerosol coating products manufactured beginning June 1, 2002, for the general coating categories and beginning January 1, 2003, for the specialty coating categories shall comply with the reactivity requirements specified in 94522(a)(3). Aerosol coating products manufactured before the effective dates of the reactivity limits specified in section 94522(a)(3) shall comply with the VOC requirements specified in section 94522(a)(2), except for products that are labeled by the manufacturer with the applicable reactivity limit, as provided in section 94524(b)(1)(B). If an aerosol coating product is so labeled, then the product shall comply with the reactivity requirements specified in section 94522(a)(3), regardless of the date on which the product was manufactured.

(a)(~~1~~2) VOC Limits for Aerosol Coating Products. Except as provided in sections 94522(a)(1), 94523 (Exemptions), 94525 (Variances), 94540 through 94555 (Alternative Control Plan), and 94567(a)(1) (Hairspray Credit Program), Title 17, California Code of Regulations, no person shall sell, supply, offer for sale, apply, or manufacture for use in California, any aerosol coating product which, at the time of sale, use, or manufacture, contains volatile organic compounds in excess of the limits specified in the following Table of Standards after the specified effective dates.

Table of Standards

Percent Volatile Organic Compounds by Weight[1]

Aerosol Coating Category		*1/8/96*		~~*1/1/2002*~~
General Coatings				
Clear Coatings		67.0		~~50.0~~
Flat Paint Products		60.0		~~40.0~~
Fluorescent Coatings		75.0		~~60.0~~
Metallic Coatings		80.0		~~65.0~~
Nonflat Paint Products		65.0		~~45.0~~
Primers		60.0		~~40.0~~
Specialty Coatings				
Art Fixatives or Sealants		95.0		~~60.0~~
Auto Body Primers		80.0		~~45.0~~
Automotive Bumper and Trim Products		95.0		~~75.0~~
Aviation or Marine Primers		80.0		~~70.0~~
Aviation Propeller Coatings		84.0		~~70.0~~
Corrosion Resistant Brass, Bronze, or Copper Coatings		92.0		~~70.0~~
Exact Match Finishes:				
Engine Enamel		80.0		~~50.0~~
Automotive		88.0		~~50.0~~
Industrial		88.0		~~70.0~~
Floral Sprays		95.0		~~70.0~~
Glass Coatings	95.0		~~65.0~~	
Ground Traffic/Marking Coatings		66.0		~~45.0~~
High Temperature Coatings		80.0		~~60.0~~
Hobby/Model/Craft Coatings:				
Enamel		80.0		~~70.0~~
Lacquer		88.0		~~70.0~~
Clear or Metallic		95.0		~~80.0~~
Marine Spar Varnishes		85.0		~~60.0~~
Photograph Coatings		95.0		~~70.0~~
Pleasure Craft Finish Primers, Surfacers or Undercoaters	75.0		~~55.0~~	
Pleasure Craft Topcoats		80.0		~~55.0~~
Shellac Sealers:				
Clear		88.0		~~70.0~~
Pigmented		75.0		~~60.0~~
Slip-Resistant Coatings		80.0		~~60.0~~

Table of Standards

Percent Volatile Organic Compounds by Weight[1]

Aerosol Coating Category	*1/8/96*	*~~1/1/2002~~*
Specialty Coatings (Cont'd)		
Spatter/Multicolor Coatings	80.0	~~55.0~~
Vinyl/Fabric/Leather/Polycarbonate Coatings	95.0	~~70.0~~
Webbing/Veil Coatings	90.0	~~80.0~~
Weld-Through Primers	75.0	~~50.0~~
Wood Stains	95.0	~~75.0~~
Wood Touch-Up, Repair or Restoration Coatings	95.0	~~90.0~~

[1] As specified in section 94522(c), for aerosol coating products containing methylene chloride, the VOC standards specified in this subsection (a)(2) shall apply to the combined percent VOC and methylene chloride by weight.

(a)(3) Reactivity Limits for Aerosol Coating Products.

(A) Except as provided in sections 94522(a)(1), 94523 (Exemptions) and 94525 (Variances), Title 17, California Code of Regulations, no person shall sell, supply, offer for sale, apply, or manufacture for use in California, any aerosol coating product which, at the time of sale, use, or manufacture, contains reactive organic compounds that have a PWMIR in excess of the limits specified in the following Table of Limits after the specified effective date.

Table of Limits

Product-Weighted MIR in Grams Ozone per Gram Product ($g O_3$ / g product)

Aerosol Coating Category	
General Coatings	**06/01/2002**
Clear Coatings	1.50
Flat Paint Products	1.20
Fluorescent Coatings	1.75
Metallic Coatings	1.90
Nonflat Paint Products	1.40
Primers	1.20
Specialty Coatings	**01/01/2003**
Art Fixatives or Sealants	1.80
Auto Body Primers	1.55
Automotive Bumper and Trim Products	1.75
Aviation or Marine Primers	2.00
Aviation Propeller Coatings	2.50
Corrosion Resistant Brass, Bronze, or Copper Coatings	1.80
Exact Match Finishes:	
Engine Enamel	1.70
Automotive	1.50
Industrial	2.05
Floral Sprays	1.70
Glass Coatings	1.40
Ground Traffic/Marking Coatings	1.20
High Temperature Coatings	1.85
Hobby/Model/Craft Coatings:	
Enamel	1.45
Lacquer	2.70
Clear or Metallic	1.60
Marine Spar Varnishes	0.90
Photograph Coatings	1.00
Pleasure Craft Finish Primers, Surfacers or Undercoaters	1.05

Table of Limits

Product-Weighted MIR in Grams Ozone per Gram Product ($g O_3$ / g product)

Aerosol Coating Category

Specialty Coatings (Cont'd)	**01/01/2003**
Pleasure Craft Topcoats	0.60
Polyolefin Adhesion Promoters	2.50
Shellac Sealers:	
Clear	1.00
Pigmented	0.95
Slip-Resistant Coatings	2.45
Spatter/Multicolor Coatings	1.05
Vinyl/Fabric/Leather/Polycarbonate Coatings	1.55
Webbing/Veil Coatings	0.85
Weld-Through Primers	1.00
Wood Stains	1.40
Wood Touch-Up, Repair or Restoration Coatings	1.50

(a)(~~2~~4) ~~i~~If an aerosol coating product is subject to both a general coating limit and a specialty coating limit, as listed in section 94522(a)(~~1~~2) or (a)(3), and the product meets all the criteria of the applicable specialty coating category as defined in section 94521, then the specialty coating limit shall apply instead of the general coating limit.

(a)(~~3~~5) Notwithstanding the provisions of sections 94522(a)(~~2~~4) or 94524(a), high-temperature coatings that contain at least 0.5 percent by weight of an elemental metallic pigment in the formulation, including propellant, shall be subject to the ~~VOC~~ limit specified for metallic coatings.

(a)(6) The Alternative Control Plan Regulation (sections 94540-94555) may not be used for aerosol coating products subject to the reactivity limits specified in section 94522(a)(3).

(b) **Sell-Through of Products Subject to the VOC Limits Specified in Section 94522(a)(2).**

Notwithstanding the provisions of section 94522(a)(1) and (a)(3), an aerosol coating product manufactured prior to each of the effective dates specified for that product ~~in the Table of Standards~~ in section 94522(a)(3) may be sold, supplied, offered for sale, or applied for up to three years after each of the specified effective dates, provided that the product complies with the limit specified in section 94522(a)(2). This subsection (b) does not apply to any product which~~:(1) is subject to the provisions of Bay Area Air Quality~~

~~Management District Rule 8-49 and is sold, supplied, offered for sale, or applied within the Bay Area Air Quality Management District; or (2)~~ does not display on the product container or package the date on which the product was manufactured, or a code indicating such date.

(c) **Products Containing Methylene Chloride <u>or Trichloroethylene</u>**.

(1) Requirements for Products Subject to the VOC Limits Specified in Section 94522(a)(2).

For any aerosol coating product containing methylene chloride, the VOC standards specified in section 94522(a)(2) shall apply to the combined percent by weight of both volatile organic compounds, and methylene chloride, calculated as follows:

(Percent by weight VOC + Percent by weight methylene chloride) must be less than or equal to the applicable VOC standard

(2) Requirements for Products Subject to the Reactivity Limits Specified in Section 94522(a)(3).

(A) For any aerosol coating product subject to the reactivity limits specified in section 94522(a)(3), no person shall sell, supply, offer for sale, apply, or manufacture for use in California any aerosol coating product which contains methylene chloride or trichloroethylene.

(B) The requirements of section 94522(c)(2) shall not apply to any aerosol coating product containing methylene chloride or trichloroethylene that is present as an impurity in a combined amount equal to or less than 0.01% by weight of the product.

(d) **Products Containing Perchloroethylene or Ozone Depleting Substances**.

(1) Requirements for Products Subject to the VOC Limits Specified in Section 94522(a)(2).

~~After the effective date of this article, f~~For any aerosol coating product ~~for which standards are specfied under~~ subject to the VOC limits specified in section 94522(a)(2), no person shall sell, supply, offer for sale, apply, or manufacture for use in California any aerosol coating product which contains perchloroethylene, or an ozone depleting substance identified by the United States Environmental Protection Agency in the Code of Federal Regulations, 40 CFR Part 82, Subpart A, under Appendices A and B, July 1, 1998. The requirements of this section 94522(d)(1) shall not apply to (A) any existing product formulation that complies with the Table of Standards and was sold in California during calendar year 1992, or (B) any product formulation that was sold in California during calendar year 1992 that is reformulated to meet the Table of Standards, as long as the content of perchloroethylene, or ozone depleting substances, as identified in this section 94522(d), in the reformulated product does not increase.

(2) Requirements for Products Subject to the Reactivity Limits Specified in Section 94522(a)(3).

(A) Perchloroethylene

For any aerosol coating product subject to the reactivity limits specified in section 94522(a)(3), no person shall sell, supply, offer for sale, apply, or manufacture for use in California any aerosol coating product which contains perchloroethylene.

(B) Ozone Depleting Substances

For any aerosol coating product subject to the reactivity limits specified in section 94522(a)(3), no person shall sell, supply, offer for sale, apply, or manufacture for use in California any aerosol coating product which contains an ozone depleting substance identified by the United States Environmental Protection Agency in the Code of Federal Regulations, 40 CFR Part 82, Subpart A, under Appendices A and B, July 1, 1998. The requirements of this section 94522(d)(2) shall not apply to (1.) any existing product formulation containing an ozone depleting substance that complies with the Table of Limits and was sold in California during calendar year 1997, or (2.) any product formulation containing an ozone depleting substance that was sold in California during calendar year 1997 that is reformulated to meet the Table of Limits, as long as the content of ozone depleting substances, as identified in this section 94522(d)(2), in the reformulated product does not increase.

(~~2~~3) The requirements of section 94522(d)(1) and (d)(2) shall not apply to any aerosol coating product containing perchloroethylene, or an ozone depleting substance as identified in section 94522(d)(1) or (d)(2), that are present as impurities in a combined amount equal to or less than 0.01% by weight of the product.

(e) **Multicomponent Kits.**

(1) Requirements for Products Subject to the VOC Limits Specified in Section 94522(a)(2).

No person shall sell, supply, offer for sale, apply, or manufacture for use in California any multi-component kit, as defined in section 94521, in which the total weight of VOC and methylene chloride contained in the multi-component kit $(\text{Total VOC + MC})_{\text{actual}}$ is greater than the total weight of VOC and methylene chloride that would be allowed in the multi-component kit if each component product in the kit had separately met the applicable VOC standards $(\text{Total VOC+ MC})_{\text{standard}}$ as calculated below:

$$(\text{Total VOC + MC})_{\text{actual}} = (\text{VOC}_1 \times W_1) + (\text{MC}_1 \times W_1) + (\text{VOC}_2 \times W_2) + (\text{MC}_2 \times W_2) + (\text{VOC}_n \times W_n) + (\text{MC}_n \times W_n)$$

$$(\text{Total VOC + MC})_{\text{standard}} = (\text{STD}_1 \times W_1) + (\text{STD}_2 \times W_2) + (\text{STD}_n \times W_n)$$

Where:

VOC = the percent by weight VOC of the component product
MC = the percent by weight methylene chloride of the component product
STD = the VOC standard specified in section 94522(a) which applies to the component product.
W = the weight of the product contents (excluding container)

Subscript 1 denotes the first component product in the kit
Subscript 2 denotes the second component product in the kit
Subscript n denotes any additional component product

(2) Requirements for Products Subject to the Reactivity Limits Specified in Section 94522(a)(3).

No person shall sell, supply, offer for sale, apply, or manufacture for use in California any multi-component kit, as defined in section 94521, in which the Kit PWMIR is greater than the Total Reactivity Limit. The Total Reactivity Limit represents the limit that would be allowed in the multi-component kit if each component product in the kit had separately met the applicable Reactivity Limit. The Kit PWMIR and Total Reactivity Limit are calculated as in equations (1), (2) and (3) below:

(1) Kit PWMIR = $(PWMIR_{(1)} \times W_1) + (PWMIR_{(2)} \times W_2) + \ldots + (PWMIR_{(n)} \times W_n)$

(2) Total Reactivity Limit = $(RL_1 \times W_1) + (RL_2 \times W_2) + \ldots + (RL_n \times W_n)$

(3) Kit PWMIR $\leq$ Total Reactivity Limit

Where:

W = the weight of the product contents (excluding container)
RL = the Reactivity Limit specified in section 94522(a)(3)
Subscript 1 denotes the first component product in the kit
Subscript 2 denotes the second component product in the kit
Subscript n denotes any additional component product

(f) **Products Assembled by Adding Bulk Paint to Aerosol Containers of Propellant**. No person shall sell, supply, offer for sale, apply, or manufacture for use in the state of California any aerosol coating product assembled by adding bulk paint to aerosol containers of propellant, unless such products comply with the VOC standards specified in section 94522(a)(2), or with the reactivity limits specified in section 94522(a)(3) for products subject to those limits.

(g) **Requirements for Lacquer Aerosol Coating Products Subject to the VOC Limits Specified in Section 94522(a)(2).**

(1) Notwithstanding the provisions of Section 94522(a)(2), lacquer aerosol coating products may be sold, supplied, offered for sale, applied, or manufactured for use in California with a combined VOC and methylene chloride content of up to 80 percent by weight until January 1, 1998.

(2) On or after January 1, 1998, all lacquer aerosol coating products sold, supplied, offered for sale, applied, or manufactured for use in California shall comply with

the provisions of section 94522(a)(2), except that lacquer aerosol coating products manufactured prior to January 1, 1998 may be sold, supplied, offered for sale, or applied until January 1, 2001, as long as the product displays on the product container or package the date on which the product was manufactured or a code indicating such date.

(3) This subsection (~~h~~g) does not apply to: (A) any lacquer coating product not clearly labeled as such, or (B) any lacquer coating product which is sold, supplied, offered for sale, applied, or manufactured for use in the Bay Area Air Quality Management District (BAAQMD) and is subject to BAAQMD Rule 8-49, or (C) any lacquer coating product that meets the definition of "clear coating" specified in section 94521.

(h) **Assignment of Maximum Incremental Reactivity (MIR) Values.**

(1) In order to calculate the PWMIR of aerosol coating products as specified in section 94521(a)(57), the MIR values of product ingredients are assigned as follows:

(A) Any ingredient which does not contain carbon is assigned a MIR value of 0.0.

(B) Any aerosol coating solid, including but not limited to resins, pigments, fillers, plasticizers, and extenders is assigned a MIR value of 0.0.

(C) For any ROC not covered under (1)(A) and (1)(B) of this subsection (h), each ROC is assigned the MIR value set forth in Subchapter 8.6, Article 1, sections 94700 and 94701, Title 17, California Code of Regulations.

(D) Except as provided in subsection (h)(3), only ROCs listed in sections 94700 and 94701, Title 17, California Code of Regulations, can be used to comply with the reactivity limits specified in section 94522(a)(3).

(E) All individual compounds in an amount equal to or exceeding 0.1 percent shall be considered ingredients in calculating the PWMIR. Such individual compounds shall be considered ingredients whether or not they are reported by the manufacturer pursuant to section 94526(b).

(2) (A) The MIR values dated [Effective Date] shall be used to calculate the PWMIR for aerosol coating products, and these MIR values shall not be changed until June 1, 2007.

(B) If a new ROC is added to section 94700 or 94701, then the new ROC may be used in aerosol coating products, and the MIR value for the new ROC

shall be used to calculate the PWMIR after the effective date of the MIR value.

(3) The MIR value for any aromatic hydrocarbon solvent with a boiling range different from the ranges specified in section 94701(b) shall be assigned as follows:

(A) if the solvent dry point is lower than or equal to 420 degrees F, the MIR value specified in section 94701(b) for bin 23 shall be used.

(B) if the solvent initial boiling point is higher than 420 degrees F, the MIR value specified in section 94701(b) for bin 24 shall be used.

NOTE: Authority cited: Sections 39600, 39601, and 41712, Health and Safety Code. Reference: Sections 39002, 39600, 40000, and 41712, Health and Safety Code.

94523. Exemptions.

(a) This article shall not apply to aerosol lubricants, mold releases, automotive underbody coatings, electrical coatings, cleaners, belt dressings, anti-static sprays, layout fluids and removers, adhesives, maskants, rust converters, dyes, inks, and leather preservatives or cleaners.

(b) This article shall not apply to any aerosol coating product manufactured in California for shipment and use outside of California.

(c) The provisions of this article shall not apply to a manufacturer, distributor, or responsible party who sells, supplies, or offers for sale in California an aerosol coating product that does not comply with the ~~VOC standards~~ limits specified in ~~S~~section 94522(a)(2) or (a)(3), as long as the manufacturer, distributor, or responsible party can demonstrate both that the aerosol coating product is intended for shipment and use outside of California, and that the manufacturer, distributor, or responsible party has taken reasonable prudent precautions to assure that the aerosol coating product is not distributed to California. This subsection (c) does not apply to aerosol coating products that are sold, supplied, or offered for sale by any person to retail outlets in California.

(d) The requirements in sections 94522(a)(2) and (a)(3) prohibiting the application of aerosol coating products ~~containing volatile organic compounds in excess of~~ that exceed the limits specified in the ~~Table of Standards~~ sections 94522(a)(2) or (a)(3) shall apply only to commercial application of aerosol coating products.

NOTE: Authority cited: Sections 39600, 39601, and 41712, Health and Safety Code. Reference: Sections 39002, 39600, 40000, and 41712, Health and Safety Code.

94524. Administrative Requirements.

(a) **Most Restrictive Limit.**

Except as otherwise provided in section 94522(a)(~~2~~ 4), if anywhere on the container of any aerosol coating product subject to the specified limits in section 94522(a)(2) or (a)(3) ~~listed in the Table of Standards~~, or on any sticker or label affixed thereto, or in any sales or advertising literature, any representation is made that the product may be used as, or is suitable for use as a product for which a lower ~~VOC standard~~ limit is specified, then the lowest applicable ~~VOC standard~~ limit shall apply.

(b) **Labeling Requirements.**

(1) Both the manufacturer and responsible party for each aerosol coating product subject to this article shall ensure that all products ~~subject to section 94522(a)~~ clearly display the following information on each product container which is manufactured 90 days or later after the effective date of this article~~:~~.

(A) Products subject to the VOC limits specified in section 94522(a)(2) shall display:

1. the applicable VOC standard for the product that is specified in section 94522(a)(2), expressed as a percentage by weight unless the product is included in an alternative control plan approved by the Executive Officer, as provided in Article 4. Sections 94540-94555, Title 17, California Code of Regulations, and the product exceeds the applicable VOC standard;

2. if the product is included in an alternative control plan approved by the Executive Officer, and the product exceeds the applicable VOC standard specified in section 94522(a)(2), the product shall be labeled with the term "ACP" or "ACP product";

~~(B)~~3. the aerosol coating category as defined in section 94521, or an abbreviation of the coating category; and

~~(C)~~4. the day, month, and year on which the product was manufactured, or a code indicating such date.

(B) Products subject to the reactivity limits specified in section 94522(a)(3) shall display:

1. the applicable reactivity limit for the product that is specified in section 94522(a)(3);

2. the aerosol coating category as defined in section 94521, or an abbreviation of the coating category; and

3. the day, month, and year on which the product was manufactured, or a code indicating such date.

(2) The information required in section 94524(b)(1), shall be displayed on the product container such that it is readily observable without removing or disassembling any portion of the product container or packaging. For the purposes of this subsection, information may be displayed on the bottom of a container as long as it is clearly legible without removing any product packaging.

(3) No person shall remove, alter, conceal, or deface the information required in section 94524(b)(1) prior to final sale of the product.

(4) For any aerosol coating product subject to section 94522(a), if the manufacturer or responsible party uses a code indicating the date of manufacture or an abbreviation of the coating category as defined in section 94521, an explanation of the code or abbreviation must be filed with the Executive Officer prior to the use of the code or abbreviation.

(c) **Reporting Requirements.**

(1) Any responsible party for an aerosol coating product subject to this article which is sold, supplied, or offered for sale in California, must supply the Executive Officer of the Air Resources Board with the following information within 90 days of the effective date of this article: the company name, mail address, contact person, and the telephone number of the contact person.

For responsible parties who do not manufacture their own aerosol coating products, the responsible party shall also supply the information specified in this subsection (c)(1) for those manufacturers which produce products for the responsible party.

The responsible party shall also notify the Executive Officer within 90 days of any change in the information supplied to the Executive Officer pursuant to this subsection (c)(1).

(2) Upon 90 days written notice, each manufacturer or responsible party subject to this article shall submit to the Executive Officer a written report with all of the following information for each product they manufacture under their name or another company's name:

(A) the brand name of the product;
(B) upon request, a copy of the product label;

(C) the owner of the trademark or brand names;
(D) the product category as defined in section 94521;
(E) the annual California sales in pounds per year and the method used to calculate California annual sales;

(F) product formulation data:

1. for products subject to the VOC limits specified in section 94522(a)(2), the percent by weight VOC, water, solids, propellant, and any compounds exempt from the definition of VOC as specified in section 94521;

2. for products subject to the reactivity limits specified in section 94522(a)(3), the PWMIR and the weight fraction of all ingredients including: water, solids, each ROC, and any compounds assigned a MIR value of zero as specified in sections 94522(h), 94700, or 94701 [Each ROC must be reported as an ingredient if it is present in an amount greater than or equal to 0.1 percent by weight of the final aerosol coatings formulation. If an individual ROC is present in an amount less than 0.1 percent by weight, then it does not need to be reported as an ingredient. In addition, an impurity that meets the following definition does not need to be reported as an ingredient.

For the purpose of this section, an "impurity" means an individual chemical compound present in a raw material which is incorporated into the final aerosol coatings formulation, if the compound is present below the following amounts in the raw material:

(i) for individual compounds that are carcinogens, as defined in 29 CFR section 1910.1200(d)(4), each compound must be present in an amount less than 0.1 percent by weight in order to be considered an "impurity."
(ii) for all other compounds present in a raw material, a compound must be present in an amount less than 1 percent by weight in order to be considered an "impurity"];

(G) an identification of each product brand name as a "household," "industrial," or "both" product; and
(H) any other information necessary to determine the emissions or the product-weighted MIR from aerosol coating products.

The information requested in this section (c)(~~3~~ 2) may be supplied as an average for a group of aerosol coating products within the same coating category when the products do not vary in VOC content by more than two percent (by weight), and the coatings are

based on the same resin type, or the products are color variations of the same product (even if the coatings vary by more than 2 percent in VOC content).

(43)Upon written request, the responsible party for aerosol coating products subject to this article shall supply the Executive Officer with a list of all exempt compounds contained in any aerosol coating product within 15 working days.

(d) **Treatment of Confidential Information.**

All information submitted by manufacturers pursuant to section 94524 shall be handled in accordance with the procedures specified in Title 17, California Code of Regulations, sections 91000-91022.

(e) **Special Reporting Requirements for Perchloroethylene-Containing Aerosol Coatings.**

(1) The requirements of this subsection shall apply to all responsible parties for perchloroethylene-containing aerosol coatings sold or offered for sale in California on or after January 1, 1996. For the purposes of this subsection, "perchloroethylene-containing aerosol coating" means any aerosol coating that is required to comply with any ~~VOC standard~~ limit specified in section 94522(a)(2) or (a)(3) and contains 1.0 percent or more by weight (exclusive of the container or packaging) of perchloroethylene (tetrachloroethylene).

(2) Reporting Requirements to Establish Baseline. On or before March 1, 1997, or 60 days after the effective date of this subsection (e) (whichever date occurs later), all responsible parties for perchloroethylene-containing aerosol coatings shall report to the Executive Officer the following information for each product:

(A) the product brand name and a copy of the product label with legible usage instructions;

(B) the product category to which the aerosol coating belongs;

~~(C) the applicable product form(s) (listed separately);~~

(~~D~~C) ~~for each product form listed in (C),~~ the total amount of the aerosol coating sold in California between January 1, 1996 and December 31, 1996, to the nearest pound (exclusive of the container or packaging), and the method used for calculating the California sales;

(~~E~~D) the weight percent, to the nearest 0.10 percent, of perchloroethylene in the aerosol coating;

(3) Annual Reporting Requirements. On or before March 1, 1998, March 1, 1999, March 1, 2000, March 1, 2001, and March 1, 2002, all responsible parties subject to the requirements of this subsection shall provide to the Executive Officer an update which reports, for the previous calendar year, any changes in the annual California sales, perchloroethylene content, or any other information provided pursuant to subsections (e)(2)(A) through (e)(2)(~~E~~D). After March 1, 2002, responsible parties are not required to submit this information unless specifically requested to do so by the Executive Officer.

(4) Upon request, the Executive Officer shall make the information submitted pursuant to this subsection available to publicly-owned treatment works in California, in accordance with the procedures for handling of confidential information specified in Title 17, California Code of Regulations, sections 91000-91022.

(A) On or before July 1, 2002, the Executive Officer shall evaluate the information, along with data on influent and effluent levels of perchloroethylene as reported by publicly-owned treatments works and any other relevant information, to determine if it is likely that publicly-owned treatment works are experiencing increased levels of perchloroethylene, relative to 1996 levels, that can be attributed to aerosol coatings which contain perchloroethylene.

(B) If the Executive Officer determines that it is likely that increased perchloroethylene levels at the publicly-owned treatment works are caused by increased levels of perchloroethylene in aerosol coatings subject to this regulation, then the Executive Officer shall, in conjunction with the publicly-owned treatment works, implement measures which are feasible, appropriate, and necessary for reducing perchloroethylene levels at the publicly-owned treatment works.

NOTE: Authority cited: Sections 39600, 39601, 41511, and 41712, Health and Safety Code. Reference: Sections 39002, 39600, 40000, 41511, and 41712, Health and Safety Code.

94526. Test Methods.

Compliance with the requirements of this article shall be determined by using the following test methods, which are incorporated by reference herein. Alternative test methods which are shown to accurately determine the VOC content, <u>ingredient name and weight percent of each ingredient,</u> exempt compound content, metal content, specular gloss, or acid content may also be used after approval in writing by the Executive Officer:

(a) <u>Testing for Products Subject to the VOC Limits Specified in Section 94522(a)(2).</u>

(1) VOC Content. The VOC content of all aerosol coating products subject to the provisions of this article shall be determined by the procedures set forth in "Air Resources Board Method 310, Determination of Volatile Organic Compounds (VOC) in Consumer Products," adopted September 25, 1997 and as last amended on [INSERT Date of Amendment] ~~September 3, 1999~~.

(2) In sections 3.5 and 3.7 of Air Resources Board (ARB) Method 310, a process is specified for the "Initial Determination of VOC Content" and the "Final Determination of VOC Content". This process is an integral part of testing procedure set forth in ARB Method 310, and is reproduced below:

Sections 3.5 and 3.7 of Air Resources Board Method 310

3.5 Initial Determination of VOC Content. The Executive Officer will determine the VOC content pursuant to section 3.2 and 3.3. Only those components with concentrations equal to or greater than 0.1 percent by weight will be reported.

3.5.1 Using the appropriate formula specified in section 4.0, the Executive Officer will make an initial determination of whether the product meets the applicable VOC standards specified in ARB regulations. If initial results show that the products does not meet the applicable VOC standards, the Executive Officer may perform additional testing to confirm the initial results.

3.5.2 If the results obtained under section 3.5.1 show that the products does not meet the applicable VOC standards, the Executive Officer will request the product manufacturer or responsible party to supply product formulation data. The manufacturer or responsible party shall supply the requested information. Information submitted to the ARB Executive Officer may be claimed as confidential; such information will be handled in accordance with the confidentiality procedures specified in Title 17, California Code of Regulations, sections 91000 to 91022.

3.5.3 If the information supplied by the manufacturer or responsible party shows that the product does not meet the applicable VOC standards, then the Executive Officer will take appropriate enforcement action.

3.5.4 If the manufacturer or responsible party fails to provide formulation data as specified in section 3.5.2, the initial determination of VOC content under this section 3.5 shall determine if the product is in compliance with the applicable VOC standards. This determination may be used to establish a violation of ARB regulations.

3.7 Final Determination of VOC Content. If a product's compliance status is not satisfactorily resolved under section 3.5 and 3.6, the Executive Officer will conduct further analyses and testing as necessary to verify the formulation data.

3.7 .1 If the accuracy of the supplied formulation data is verified and the product sample is determined to meet the applicable VOC standards, then no enforcement action for violation of the VOC standards will be taken.

3.7.2 If the Executive Officer is unable to verify the accuracy of the supplied formulation data, then the Executive Officer will request the product manufacturer or responsible party to supply information to explain the discrepancy.

3.7.3 If there exists a discrepancy that cannot be resolved between the results of Method 310 and the supplied formulation data, then the results of Method 310 shall take precedence over the supplied formulation data. The results of Method 310 shall then determine if the product is in compliance with the applicable VOC standards, and may be used to establish a violation of ARB regulations.

(b) Testing for Products Subject to the Reactivity Limits Specified in Section 94522(a)(3).

(1) The ingredients and the amount of each ingredient of all aerosol coating products subject to the provisions of this article shall be determined by the procedures set forth in "Air Resources Board Method 310, Determination of Volatile Organic Compounds (VOC) in Consumer Products," adopted September 25, 1997 and as last amended on [Date of Amendment].

(2) Upon written notification from the Executive Officer, the aerosol coating manufacturer shall have 10 working days to provide to the Executive Officer the following information for products selected for testing:

(A) the product category as defined in section 94521(a);

(B) the PWMIR;

(C) the weight fraction of all ingredients including: water, solids, each ROC, and any compounds assigned a MIR value of zero as specified in sections 94522(h), 94700, or 94701 [Each ROC must be reported as an ingredient if it is present in an amount greater than or equal to 0.1 percent by weight of the final aerosol coatings formulation. If an individual ROC is present in an amount less than 0.1 percent by weight, then it does not need to be

reported as an ingredient. In addition, an impurity that meets the following definition does not need to be reported as an ingredient.

For the purpose of this section, an "impurity" means an individual chemical compound present in a raw material which is incorporated into the final aerosol coatings formulation, if the compound is present below the following amounts in the raw material:

(i) for individual compounds that are carcinogens, as defined in 29 CFR section 1910.1200(d)(4), each compound must be present in an amount less than 0.1 percent by weight in order to be considered an "impurity."

(ii) for all other compounds present in a raw material, a compound must be present in an amount less than 1 percent by weight in order to be considered an "impurity"];

(D) any other information necessary to determine the PWMIR of the aerosol coating products to be tested.

(3) Final determination of the PWMIR of the aerosol coatings shall be determined using the information obtained from section 94526(b)(1) and (2).

(~~b~~c) Exempt Compounds from Products Subject to the VOC Limits Specified in Section 94522(a)(2). Compounds exempt from the definition of VOC shall be analyzed according to the test methods listed below:

(1) the exempt compound content of ~~all~~ aerosol coating products shall be determined by "Air Resources Board Method 310, Determination of Volatile Organic Compounds (VOC) in Consumer Products," adopted September 25, 1997 and as last amended on [INSERT Amendment Date]~~September 3, 1999~~, which is incorporated herein by reference.

(2) the following classes of compounds will be analyzed as exempt compounds only if manufacturers specify which individual compounds are used in the product formulations and identify the test methods, which prior to such analysis, have been approved by the Executive Officer of the ARB, and can be used to quantify the amounts of each exempt compound: 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.

(~~c~~d) Metal Content. The metal content of metallic aerosol coating products shall be determined by South Coast Air Quality Management District (SCAQMD) Test

Method 318-95 “Determination of Weight Percent Elemental Metal in Coatings by X-ray Diffraction” July 1996, which is incorporated herein by reference.

(~~d~~e) Specular Gloss. Specular gloss of flat and nonflat coatings shall be determined by ASTM Method D-523-89, March 31, 1989, which is incorporated herein by reference.

(~~e~~f) Acid Content. The acid content of rust converters shall be determined by ASTM Method D-1613-91, “Standard Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish. Lacquer, and Related Products, May 15, 1991, which is incorporated herein by reference.

(~~f~~g) Lacquers. Lacquer aerosol coating products shall be identified according to the procedures specified in ASTM Method D-5043-90, “Standard Test Methods for Field Identification of Coatings,” April 27, 1990, which is incorporated herein by reference.

NOTE: Authority cited: Sections 39600, 39601, 39607, 41511, and 41712, Health and Safety Code. Reference: Sections 39002, 39600, 39607, 40000, 41511, and 41712, Health and Safety Code.

TABLES OF MAXIMUM INCREMENTAL REACTIVITY (MIR) VALUES

Add new Title 17, California Code of Regulations, Subchapter 8.6, Article 1, sections 94700-94701, to read as follows:

SUBCHAPTER 8.6 MAXIMUM INCREMENTAL REACTIVITY

Article 1. Tables of Maximum Incremental Reactivity (MIR) Values

94700. MIR Values for Compounds.

Organic Compound	MIR Value [Effective Date*]
Carbon Monoxide	0.06
Methane	0.01
Ethane	0.31
Propane	0.56
n-Butane	1.33
n-Pentane	1.54
n-Hexane	1.45
n-Heptane	1.28
n-Octane	1.11
n-Nonane	0.95
n-Decane	0.83
n-Undecane	0.74
n-Dodecane	0.66
n-Tridecane	0.62
n-Tetradecane	0.58
n-Pentadecane	0.56
n-C16	0.52
n-C17	0.49
n-C18	0.47
n-C19	0.44
n-C20	0.42
n-C21	0.40
n-C22	0.38
Isobutane	1.35
Isopentane	1.68
Neopentane	0.69
Branched C5 Alkanes	1.68
2,2-Dimethyl Butane	1.33
2,3-Dimethyl Butane	1.14
2-Methyl Pentane (Isohexane)	1.80
3-Methyl Pentane	2.07
Branched C6 Alkanes	1.53

Organic Compound	MIR Value [Effective Date*]
2,2,3-Trimethyl Butane	1.32
2,2-Dimethyl Pentane	1.22
2,3-Dimethyl Pentane	1.55
2,4-Dimethyl Pentane	1.65
2-Methyl Hexane	1.37
3,3-Dimethyl Pentane	1.32
3-Methyl Hexane	1.86
Branched C7 Alkanes	1.63
2,2,3,3-Tetramethyl Butane	0.44
2,2,4-Trimethyl Pentane (Isooctane)	1.44
2,2-Dimethyl Hexane	1.13
2,3,4-Trimethyl Pentane	1.23
2,3-Dimethyl Hexane	1.34
2,4-Dimethyl Hexane	1.80
2,5-Dimethyl Hexane	1.68
2-Methyl Heptane	1.20
3-Methyl Heptane	1.35
4-Methyl Heptane	1.48
Branched C8 Alkanes	1.57
2,2,5-Trimethyl Hexane	1.33
2,3,5-Trimethyl Hexane	1.33
2,4-Dimethyl Heptane	1.48
2-Methyl Octane	0.96
3,3-Diethyl Pentane	1.35
3,5-Dimethyl Heptane	1.63
4-Ethyl Heptane	1.44
4-Methyl Octane	1.08
Branched C9 Alkanes	1.25
2,4-Dimethyl Octane	1.09
2,6-Dimethyl Octane	1.27
2-Methyl Nonane	0.86
3,4-Diethyl Hexane	1.20
3-Methyl Nonane	0.89
4-Methyl Nonane	0.99
4-Propyl Heptane	1.24
Branched C10 Alkanes	1.09
2,6-Dimethyl Nonane	0.95
3,5-Diethyl Heptane	1.21
3-Methyl Decane	0.77
4-Methyl Decane	0.80
Branched C11 Alkanes	0.87
2,3,4,6-Tetramethyl Heptane	1.26
2,6-Diethyl Octane	1.09
3,6-Dimethyl Decane	0.88
3-Methyl Undecane	0.70

Organic Compound	MIR Value [Effective Date*]
5-Methyl Undecane	0.72
Branched C12 Alkanes	0.80
2,3,5,7-Tetramethyl Octane	1.06
3,6-Dimethyl Undecane	0.82
3,7-Diethyl Nonane	1.08
3-Methyl Dodecane	0.64
5-Methyl Dodecane	0.64
Branched C13 Alkanes	0.73
2,4,6,8-Tetramethyl Nonane	0.94
2,3,6-Trimethyl 4-Isopropyl Heptane	1.24
3,7-Dimethyl Dodecane	0.74
3,8-Diethyl Decane	0.68
3-Methyl Tridecane	0.57
6-Methyl Tridecane	0.62
Branched C14 Alkanes	0.67
2,4,5,6,8-Pentamethyl Nonane	1.11
2-Methyl 3,5-Diisopropyl Heptane	0.78
3,7-Dimethyl Tridecane	0.64
3,9-Diethyl Undecane	0.62
3-Methyl Tetradecane	0.53
6-Methyl Tetradecane	0.57
Branched C15 Alkanes	0.60
2,6,8-Trimethyl 4-Isopropyl Nonane	0.76
3-Methyl Pentadecane	0.50
4,8-Dimethyl Tetradecane	0.58
7-Methyl Pentadecane	0.51
Branched C16 Alkanes	0.54
2,7-Dimethyl 3,5-Diisopropyl Heptane	0.69
Branched C17 Alkanes	0.51
Branched C18 Alkanes	0.48
Cyclopropane	0.10
Cyclobutane	1.05
Cyclopentane	2.69
Cyclohexane	1.46
Isopropyl Cyclopropane	1.52
Methylcyclopentane	2.42
C6 Cycloalkanes	1.46
1,3-Dimethyl Cyclopentane	2.15
Cycloheptane	2.26
Ethyl Cyclopentane	2.27
Methylcyclohexane	1.99
C7 Cycloalkanes	1.99
1,3-Dimethyl Cyclohexane	1.72
Cyclooctane	1.73
Ethylcyclohexane	1.75

Organic Compound	MIR Value [Effective Date*]
Propyl Cyclopentane	1.91
C8 Cycloalkanes	1.75
C9 Bicycloalkanes	1.57
1,1,3-Trimethyl Cyclohexane	1.37
1-Ethyl-4-Methyl Cyclohexane	1.62
Propyl Cyclohexane	1.47
C9 Cycloalkanes	1.55
C10 Bicycloalkanes	1.29
1,3-Diethyl Cyclohexane	1.34
1,4-Diethyl Cyclohexane	1.49
1-Methyl-3-Isopropyl Cyclohexane	1.26
Butyl Cyclohexane	1.07
C10 Cycloalkanes	1.27
C11 Bicycloalkanes	1.01
1,3-Diethyl-5-Methyl Cyclohexane	1.11
1-Ethyl-2-Propyl Cyclohexane	0.95
Pentyl Cyclohexane	0.91
C11 Cycloalkanes	0.99
C12 Bicycloalkanes	0.88
C12 Cycloalkanes	0.87
1,3,5-Triethyl Cyclohexane	1.06
1-Methyl-4-Pentyl Cyclohexane	0.81
Hexyl Cyclohexane	0.75
C13 Bicycloalkanes	0.79
1,3-Diethyl-5-Pentyl Cyclohexane	0.99
1-Methyl-2-Hexyl Cyclohexane	0.70
Heptyl Cyclohexane	0.66
C13 Cycloalkanes	0.78
C14 Bicycloalkanes	0.71
1,3-Dipropyl-5-Ethyl Cyclohexane	0.94
1-Methyl-4-Heptyl Cyclohexane	0.58
Octyl Cyclohexane	0.60
C14 Cycloalkanes	0.71
C15 Bicycloalkanes	0.69
1,3,5-Tripropyl Cyclohexane	0.90
1-Methyl-2-Octyl Cyclohexane	0.60
Nonyl Cyclohexane	0.54
C15 Cycloalkanes	0.68
1,3-Dipropyl-5-Butyl Cyclohexane	0.77
1-Methyl-4-Nonyl Cyclohexane	0.55
Decyl Cyclohexane	0.50
C16 Cycloalkanes	0.61
Ethene	9.08
Propene (Propylene)	11.58
1-Butene	10.29

Organic Compound	MIR Value [Effective Date*]
C4 Terminal Alkenes	10.29
1-Pentene	7.79
3-Methyl-1-Butene	6.99
C5 Terminal Alkenes	7.79
1-Hexene	6.17
3,3-Dimethyl-1-Butene	6.06
3-Methyl-1-Pentene	6.22
4-Methyl-1-Pentene	6.26
C6 Terminal Alkenes	6.17
1-Heptene	4.56
1-Octene	3.45
C8 Terminal Alkenes	3.45
1-Nonene	2.76
C9 Terminal Alkenes	2.76
1-Decene	2.28
C10 Terminal Alkenes	2.28
1-Undecene	1.95
C11 Terminal Alkenes	1.95
C12 Terminal Alkenes	1.72
1-Dodecene	1.72
1-Tridecene	1.55
C13 Terminal Alkenes	1.55
1-Tetradecene	1.41
C14 Terminal Alkenes	1.41
1-Pentadecene	1.37
C15 Terminal Alkenes	1.37
2-Methyl Pentene (Isobutene)	6.35
2-Methyl-1-Butene	6.51
2,3-Dimethyl-1-Butene	4.77
2-Ethyl-1-Butene	5.04
2-Methyl-1-Pentene	5.18
2,3,3-Trimethyl-1-Butene	4.62
C7 Terminal Alkenes	4.56
3-Methyl-2-Isopropyl-1-Butene	3.29
cis-2-Butene	13.22
trans-2-Butene	13.91
C4 Internal Alkenes	13.57
2-Methyl-2-Butene	14.45
cis-2-Pentene	10.24
trans-2-Pentene	10.23
2-Pentenes	10.23
C5 Internal Alkenes	10.23
2,3-Dimethyl-2-Butene	13.32
2-Methyl-2-Pentene	12.28
Cis-2-Hexene	8.44

Organic Compound	MIR Value [Effective Date*]
Cis-3-Hexene	8.22
Cis-3-Methyl-2-Hexene	13.38
Trans 3-Methyl-2-Hexene	14.17
Trans 4-Methyl-2-Hexene	7.88
Trans-2-Hexene	8.44
Trans-3-Hexene	8.16
2-Hexenes	8.44
C6 Internal Alkenes	8.44
2,3-Dimethyl-2-Hexene	10.41
Cis-3-Heptene	6.96
Trans-4,4-Dimethyl-2-Pentene	6.99
Trans-2-Heptene	7.33
Trans-3-Heptene	6.96
2-Heptenes	6.96
C7 Internal Alkenes	6.96
Cis-4-Octene	5.94
Trans-2,2-Dimethyl-3-Hexene	5.97
Trans-2,5-Dimethyl-3-Hexene	5.44
Trans-3-Octene	6.13
Trans-4-Octene	5.90
3-Octenes	6.13
C8 Internal Alkenes	5.90
2,4,4-Trimethyl-2-Pentene	5.85
3-Nonenes	5.31
C9 Internal Alkenes	5.31
Trans-4-Nonene	5.23
3,4-Diethyl-2-Hexene	3.95
Cis-5-Decene	4.89
Trans-4-Decene	4.50
C10 3-Alkenes	4.50
C10 Internal Alkenes	4.50
Trans-5-Undecene	4.23
C11 3-Alkenes	4.23
C11 Internal Alkenes	4.23
C12 2-Alkenes	3.75
C12 3-Alkenes	3.75
C12 Internal Alkenes	3.75
Trans-5-Dodecene	3.74
Trans-5-Tridecene	3.38
C13 3-Alkenes	3.38
C13 Internal Alkenes	3.38
Trans-5-Tetradecene	3.08
C14 3-Alkenes	3.08
C14 Internal Alkenes	3.08
Trans-5-Pentadecene	2.82

Organic Compound	MIR Value [Effective Date*]
C15 3-Alkenes	2.82
C15 Internal Alkenes	2.82
C4 Alkenes	11.93
C5 Alkenes	9.01
C6 Alkenes	6.88
C7 Alkenes	5.76
C8 Alkenes	4.68
C9 Alkenes	4.03
C10 Alkenes	3.39
C11 Alkenes	3.09
C12 Alkenes	2.73
C13 Alkenes	2.46
C14 Alkenes	2.28
C15 Alkenes	2.06
Cyclopentene	7.38
1-Methyl Cyclopentene	13.95
Cyclohexene	5.45
1-Methyl Cyclohexene	7.81
4-Methyl Cyclohexene	4.48
1,2-Dimethyl Cyclohexene	6.77
1,3-Butadiene	13.58
Isoprene	10.69
C6 Cyclic or Di-olefins	8.65
C7 Cyclic or Di-olefins	7.49
C8 Cyclic or Di-olefins	6.01
C9 Cyclic or Di-olefins	5.40
C10 Cyclic or Di-olefins	4.56
C11 Cyclic or Di-olefins	4.29
C12 Cyclic or Di-olefins	3.79
C13 Cyclic or Di-olefins	3.42
C14 Cyclic or Di-olefins	3.11
C15 Cyclic or Di-olefins	2.85
Cyclopentadiene	7.61
3-Carene	3.21
a-Pinene (Pine Oil)	4.29
b-Pinene	3.28
d-Limonene (Dipentene or Orange Terpene)	3.99
Sabinene	3.67
Terpene	3.79
Styrene	1.95
a-Methyl Styrene	1.72
C9 Styrenes	1.72
C10 Styrenes	1.53
Benzene	0.81
Toluene	3.97

Organic Compound	MIR Value [Effective Date*]
Ethyl Benzene	2.79
Cumene (Isopropyl Benzene)	2.32
n-Propyl Benzene	2.20
C9 Monosubstituted Benzenes	2.20
s-Butyl Benzene	1.97
C10 Monosubstituted Benzenes	1.97
n-Butyl Benzene	1.97
C11 Monosubstituted Benzenes	1.78
C12 Monosubstituted Benzenes	1.63
C13 Monosubstituted Benzenes	1.50
m-Xylene	10.61
o-Xylene	7.49
p-Xylene	4.25
C8 Disubstituted Benzenes	7.48
C9 Disubstituted Benzenes	6.61
C10 Disubstituted Benzenes	5.92
C11 Disubstituted Benzenes	5.35
C12 Disubstituted Benzenes	4.90
C13 Disubstituted Benzenes	4.50
Isomers of Ethylbenzene	5.16
1,2,3-Trimethyl Benzene	11.26
1,2,4-Trimethyl Benzene	7.18
1,3,5-Trimethyl Benzene	11.22
C9 Trisubstituted Benzenes	9.90
Isomers of Propylbenzene	6.12
C10 Tetrasubstituted Benzenes	8.86
C10 Trisubstituted Benzenes	8.86
Isomers of Butylbenzene	5.48
C11 Pentasubstituted Benzenes	8.03
C11 Tetrasubstituted Benzenes	8.03
C11 Trisubstituted Benzenes	8.03
Isomers of Pentylbenzene	4.96
C12 Pentasubstituted Benzenes	7.33
C12 Hexasubstituted Benzenes	7.33
C12 Tetrasubstituted Benzenes	7.33
C12 Trisubstituted Benzenes	7.33
Isomers of Hexylbenzene	4.53
C13 Trisubstituted Benzenes	6.75
Indane	3.17
Naphthalene	3.26
Tetralin	2.83
Methyl Naphthalenes	4.61
1-Methyl Naphthalene	4.61
2-Methyl Naphthalene	4.61
C11 Tetralin or Indane	2.56

Organic Compound	MIR Value [Effective Date*]
2,3-Dimethyl Naphthalene	5.54
C12 Disubstituted Naphthalenes	5.54
Dimethyl Naphthalenes	5.54
C12 Monosubstituted Naphthalenes	4.20
C13 Disubstituted Naphthalenes	5.08
C13 Trisubstituted Naphthalenes	5.08
C13 Monosubstituted Naphthalenes	3.86
Acetylene	1.25
Methyl Acetylene	6.45
2-Butyne	16.33
Ethyl Acetylene	6.20
Methanol	0.71
Ethanol	1.69
Isopropanol (2-Propanol or Isopropyl Alcohol)	0.71
N-Propanol (n-Propyl Alcohol)	2.74
Isobutanol (Isobutyl Alcohol)	2.24
1-Butanol (n-Butyl Alcohol)	3.34
2-Butanol (s-Butyl Alcohol)	1.60
t-Butyl Alcohol	0.45
Cyclopentanol	1.96
2-Pentanol	1.74
3-Pentanol	1.73
N-Pentanol (Amyl Alcohol)	3.35
Cyclohexanol	2.25
1-Hexanol	2.74
2-Hexanol	2.46
1-Heptanol	2.21
1-Octanol	2.01
2-Ethyl-1-Hexanol (Ethyl Hexyl Alcohol)	2.20
2-Octanol	2.16
3-Octanol	2.57
4-Octanol	3.07
Isodecyl Alcohol	1.23
Ethylene Glycol	3.36
Propylene Glycol	2.75
1,2-Butanediol	2.21
Glycerol (1,2,3-Propanetriol)	3.27
1,2-Dihydroxy Hexane	2.75
2-Methyl-2,4-Pentanediol	1.04
Dimethyl Ether	0.93
Trimethylene Oxide	5.22
Dimethoxymethane	1.04
Tetrahydrofuran	4.95
Diethyl Ether	4.01
Alpha-Methyltetrahydrofuran	4.62

Organic Compound	MIR Value [Effective Date*]
Tetrahydropyran	3.81
Ethyl Isopropyl Ether	3.86
Methyl n-Butyl Ether	3.66
Methyl t-Butyl Ether	0.78
2,2-Dimethoxypropane	0.52
Di n-Propyl Ether	3.24
Ethyl n-Butyl Ether	3.86
Ethyl t-Butyl Ether	2.11
Methyl t-Amyl Ether	2.14
2-Butyl Tetrahydrofuran	2.53
Di-Isobutyl Ether	1.29
Di-n-butyl Ether	3.17
Di-n-Pentyl Ether	2.64
Ethylene Glycol Monomethyl Ether (2-Methoxyethanol)	2.98
Propylene Glycol Monomethyl Ether (1-Methoxy-2-Propanol)	2.62
2-Ethoxyethanol	3.78
2-Methoxy-1-Propanol	3.01
Diethylene Glycol	3.55
Propylene Glycol Monoethyl Ether (1-Ethoxy-2-Propanol)	3.25
Ethylene Glycol Monopropyl Ether (2-Propoxyethanol)	3.52
3-Ethoxy-1-Propanol	4.24
3-Methoxy-1-Butanol	0.97
Diethylene Glycol Methyl Ether [2-(2-Methoxyethoxy) Ethanol]	2.90
Propylene Glycol Monopropyl Ether (1-Propoxy-2-Propanol)	2.86
Ethylene Glycol Monobutyl Ether [2-Butoxyethanol]	2.90
3-Methoxy-3-Methyl-Butanol	1.74
2-(2-Ethoxyethoxy) Ethanol	3.19
Dipropylene Glycol	2.48
Propylene Glycol t-Butyl Ether (1-tert-Butoxy-2-Propanol)	1.71
2-tert-Butoxy-1-Propanol	1.81
n-Butoxy-2-Propanol	2.70
Dipropylene Glycol Methyl Ether Isomer (1-Methoxy-2-[2-Hydroxypropoxy]-Propane)	2.21
Dipropylene Glycol Methyl Ether Isomer (2-[2-Methoxypropoxy]-1- Propanol)	3.02
2-Hexyloxyethanol	2.45
2-(2-Propoxyethoxy) Ethanol	3.00
2,2,4-Trimethyl-1,3-Pentanediol	1.74
2-(2-Butoxyethoxy)-Ethanol	2.70
2-[2-(2-Methoxyethoxy) Ethoxy] Ethanol	2.62
Ethylene Glycol 2-Ethylhexyl Ether [2-(2-Ethylhexyloxy) Ethanol]	1.71
2-[2-(2-Ethoxyethoxy) Ethoxy] Ethanol	2.66
2-(2-Hexyloxyethoxy) Ethanol	2.03
2-[2-(2-Propoxyethoxy) Ethoxy] Ethanol	2.46
2-[2-(2-Butoxyethoxy) Ethoxy] Ethanol	2.24
Tripropylene Glycol Monomethyl Ether	1.90
2,5,8,11-Tetraoxatridecan-13-ol	2.15

Organic Compound	MIR Value [Effective Date*]
3,6,9,12-Tetraoxahexadecan-1-ol	1.90
Cumene Hydroperoxide (1-Methyl-1-Phenylethylhydroperoxide)**	12.61
Methyl Formate	0.06
Ethyl Formate	0.52
Methyl Acetate	0.07
Ethyl Acetate	0.64
Methyl Propionate	0.71
n-Propyl Formate	0.93
Ethyl Propionate	0.79
Isopropyl Acetate	1.12
Methyl Butyrate	1.18
Methyl Isobutyrate	0.70
n-Butyl Formate	0.95
Propyl Acetate	0.87
Ethyl Butyrate	1.25
Isobutyl Acetate	0.67
Methyl Pivalate (2,2-Dimethyl Propanoic Acid Methyl Ester)	0.39
n-Butyl Acetate	0.89
n-Propyl Propionate	0.93
s-Butyl Acetate	1.43
t-Butyl Acetate	0.20
Butyl Propionate	0.89
Amyl Acetate	0.96
n-Propyl Butyrate	1.17
EEP Solvent (Ethyl 3-Ethoxy Propionate)	3.61
2,3-Dimethylbutyl Acetate	0.84
2-Methylpentyl Acetate	1.11
3-Methylpentyl Acetate	1.31
4-Methylpentyl Acetate	0.92
Isobutyl Isobutyrate	0.61
n-Butyl Butyrate	1.12
n-Hexyl Acetate (Hexyl Acetate)	0.87
2,4-Dimethylpentyl Acetate	0.98
2-Methylhexyl Acetate	0.89
3-Ethylpentyl Acetate	1.24
3-Methylhexyl Acetate	1.01
4-Methylhexyl Acetate	0.91
5-Methylhexyl Acetate	0.79
Isoamyl Isobutyrate	0.89
n-Heptyl Acetate (Heptyl Acetate)	0.73
2,4-Dimethylhexyl Acetate	0.93
2-Ethyl-Hexyl Acetate	0.79
3,4-Dimethylhexyl Acetate	1.16
3,5-Dimethylhexyl Acetate	1.09
3-Ethylhexyl Acetate	1.03

Organic Compound	MIR Value [Effective Date*]
3-Methylheptyl Aceate	0.76
4,5-Dimethylhexyl Acetate	0.86
4-Methylheptyl Acetate	0.72
5-Methylheptyl Acetate	0.73
n-Octyl Acetate	0.64
2,3,5-Trimethylhexyl Acetate	0.86
2,3-Dimethylheptyl Acetate	0.84
2,4-Dimethylheptyl Acetate	0.88
2,5-Dimethylheptyl Acetate	0.86
2-Methyloctyl Acetate	0.63
3,5-Dimethylheptyl Acetate	1.01
3,6-Dimethylheptyl Acetate	0.87
3-Ethylheptyl Acetate	0.71
4,5-Dimethylheptyl Acetate	0.96
4,6-Dimethylheptyl Acetate	0.83
4-Methyloctyl Acetate	0.68
5-Methyloctyl Acetate	0.67
n-Nonyl Acetate	0.58
3,6-Dimethyloctyl Acetate	0.88
3-Isopropylheptyl Acetate	0.71
4,6-Dimethyloctyl Acetate	0.85
3,5,7-Trimethyloctyl Acetate	0.83
3-Ethyl-6-Methyloctyl Acetate	0.80
4,7-Dimethylnonyl Acetate	0.64
2,3,5,7-Tetramethyloctyl Acetate	0.74
3,5,7-Trimethylnonyl Acetate	0.76
3,6,8-Trimethylnonyl Acetate	0.72
2,4,6,8-Tetramethylnonyl Acetate	0.63
3-Ethyl-6,7-Dimethylnonyl Acetate	0.76
4,7,9-Trimethyldecyl Acetate	0.55
2,3,5,6,8-Pentaamethylnonyl Acetate	0.74
3,5,7,9-Tetramethyldecyl Acetate	0.58
5-Ethyl-3,6,8-Trimethylnonyl Acetate	0.77
Dimethyl Carbonate	0.06
Propylene Carbonate (4-Methyl-1,3-Dioxolan-2-one)	0.25
Methyl Lactate	2.75
2-Methoxyethyl Acetate	1.18
Ethyl Lactate	2.71
Methyl Isopropyl Carbonate	0.69
Propylene Glycol Monomethyl Ether Acetate (1-Methoxy-2-Propyl Acetate)	1.71
2-Ethoxyethyl Acetate	1.90
2-Methoxy-1-Propyl Acetate	1.12
Dimethyl Succinate	0.23
Ethylene Glycol Diacetate	0.72
Diisopropyl Carbonate	1.04

Organic Compound	MIR Value [Effective Date*]
Dimethyl Glutarate	0.51
Ethylene Glycol Monobutyl Ether Acetate (2-Butoxyethyl Acetate)	1.67
Dimethyl Adipate	1.95
2-(2-Ethoxyethoxy) Ethyl Acetate	1.50
2-(2-Butoxyethoxy) Ethyl Acetate	1.38
Substituted C7 Ester (C12)	0.92
1-Hydroxy-2,2,4-Trimethylpentyl-3-Isobutyrate	0.92
3-Hydroxy-2,2,4-Trimethylpentyl-1-Isobutyrate	0.88
Hydroxy-2,2,4-Trimethylpentyl -Isobutyrate Isomers (2,2,4-Trimethyl-1,3-Pentanediol Monoisobutyrate)	0.89
Substituted C9 Ester (C12)	0.89
Dimethyl Sebacate	0.48
Ethylene Oxide	0.05
Propylene Oxide	0.32
1,2-Epoxybutane (Ethyl Oxirane)	1.02
Formic Acid	0.08
Acetic Acid	0.71
Glycolic Acid (Hydroxyacetic Acid)	2.67
Peracetic Acid (Peroxyacetic Acid)**	12.62
Acrylic Acid	11.66
Propionic Acid	1.16
Methacrylic Acid	18.78
2-Ethyl Hexanoic Acid	4.41
Methyl Acrylate	12.24
Vinyl Acetate	3.26
2-Methyl-2-Butene-3-ol (1,2-Dimethylpropyl-1-en-1-ol)	5.12
Ethyl Acrylate	8.78
Methyl Methacrylate	15.84
Butyl Methacrylate	9.09
Isobutyl Methacrylate	8.99
Isobornyl Methacrylate**	8.64
2-Ethyl-Hexyl Acrylate	2.42
Furan	16.54
Formaldehyde	8.97
Acetaldehyde	6.84
Propionaldehyde	7.89
2-Methylpropanal	5.87
Butanal	6.74
C4 Aldehydes	6.74
2,2-Dimethylpropanal (Pivaldehyde)	5.40
3-Methylbutanal (Isovaleraldehyde)	5.52
Pentanal (Valeraldehyde)	5.76
C5 Aldehydes	5.76
Glutaraldehyde	4.79
Hexanal	4.98

Organic Compound	MIR Value [Effective Date*]
C6 Aldehydes	4.98
Heptanal	4.23
C7 Aldehydes	4.23
Octanal	3.65
C8 Aldehydes	3.65
Glyoxal	14.22
Methyl Glyoxal	16.21
Acrolein	7.60
Crotonaldehyde	10.07
Methacrolein	6.23
Hydroxy Methacrolein	6.61
Benzaldehyde	0.00
Tolualdehyde	0.00
Acetone	0.43
Cyclobutanone	0.68
Methyl Ethyl Ketone (2-Butanone)	1.49
Cyclopentanone	1.43
C5 Cyclic Ketones	1.43
Methyl Propyl Ketone (2-Pentanone)	3.07
3-Pentanone	1.45
C5 Ketones	3.07
Cyclohexanone	1.61
C6 Cyclic Ketones	1.61
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	4.31
Methyl n-Butyl Ketone (2-Hexanone)	3.55
Methyl t-Butyl Ketone	0.78
C6 Ketones	3.55
C7 Cyclic Ketones	1.41
Methyl Amyl Ketone (2-Heptanone)	2.80
2-Methyl-3-Hexanone	1.79
Di-Isopropyl Ketone	1.63
C7 Ketones	2.80
3-Methyl-2-Hexanone	2.81
Methyl Isoamyl Ketone (5-Methyl-2-Hexanone)	2.10
C8 Cyclic Ketones	1.25
2-Octanone	1.66
C8 Ketones	1.66
C9 Cyclic Ketones	1.13
2-Nonanone	1.30
Di-Isobutyl Ketone (2,6-Dimethyl-4-Heptanone)	2.94
C9 Ketones	1.30
C10 Cyclic Ketones	1.02
2-Decanone	1.06
C10 Ketones	1.06
Biacetyl	20.73

Organic Compound	MIR Value [Effective Date*]
Methylvinyl Ketone	8.73
Hydroxy Acetone	3.08
Methoxy Acetone	2.14
Diacetone Alcohol (4-Hydroxy-4-Methyl-2-Pentanone)	0.68
Phenol	1.82
Alkyl Phenols	2.34
m-Cresol	2.34
p-Cresol	2.34
o-Cresol	2.34
1-Phenoxy-2-Propanol	1.73
Nitrobenzene	0.07
Para Toluene Isocyanate	0.93
Toluene Diisocyanate	0.00
Methylene Diphenylene Diisocyanate	0.79
N-Methyl Acetamide**	19.70
Dimethyl Amine	9.37
Ethyl Amine	7.80
Trimethyl Amine	7.06
Triethyl Amine**	16.60
Diethylenetriamine**	13.03
Ethanolamine	5.97
Dimethylaminoethanol	4.76
Monoisopropanol Amine (1-Amino-2-Propanol)**	13.42
2-Amino-2-Methyl-1-Propanol**	15.08
Diethanol Amine	4.05
Triethanolamine	2.76
Methyl Pyrrolidone (N-Methyl-2-Pyrrolidone)	2.56
Morpholine**	15.43
Nitroethane**	12.79
Nitromethane**	7.86
1-Nitropropane**	16.16
2-Nitropropane**	16.16
Dexpanthenol (Pantothenylol)**	9.35
Methyl Ethyl Ketoxime (Ethyl Methyl Ketone Oxime)**	22.04
Hydroxyethylethylene Urea**	14.75
Methyl Chloride	0.03
Methylene Chloride (Dichloromethane)	0.07
Methyl Bromide	0.02
Chloroform	0.03
Vinyl Chloride	2.92
Ethyl Chloride	0.25
1,1-Dichloroethane	0.10
1,2-Dichloroethane	0.10
Ethyl Bromide	0.11
1,1,1-Trichloroethane	0.00

Organic Compound	MIR Value [Effective Date*]
1,1,2-Trichloroethane	0.06
1,2-Dibromoethane	0.05
n-Propyl Bromide	0.35
n-Butyl Bromide	0.60
Trans-1,2-Dichloroethene	0.81
Trichloroethylene	0.60
Perchloroethylene	0.04
2-(Chloro-Methyl)-3-Chloro Propene	1.13
Monochlorobenzene	0.36
p-Dichlorobenzene	0.20
Benzotrifluoride	0.26
PCBTF (p-Trifluoromethyl-Cl-Benzene)	0.11
HFC-134a (1,1,1,2-Tetrafluoroethane)**	0.00
HFC-152a (1,1-Difluoroethane)**	0.00
Dimethyl Sulfoxide	6.90
Base ROG Mixture	3.71
Alkane, Mixed – Predominantly (minimally 94%) C13-14	0.67
Oxo-Hexyl Acetate	1.03
Oxo-Heptyl Acetate	0.97
Oxo-Octyl Acetate	0.96
Oxo-Nonyl Acetate	0.85
Oxo-Decyl Acetate	0.83
Oxo-Dodecyl Acetate	0.72
Oxo-Tridecyl Acetate	0.67

*30 Days after the Regulation is approved by the Office of Administrative Law.
**ULMIR (as defined in section 94521 (a)(71), title 17, California Code of Regulations.)

NOTE: Authority cited: Sections 39600, 39601, and 41712, Health and Safety Code. Reference: Sections 39002, 39600, 40000, and 41712, Health and Safety Code.

94701. MIR Values for Hydrocarbon Solvents.

(a) Aliphatic Hydrocarbon Solvents

Bin	Average Boiling Point*** (degrees F)	Criteria	MIR Value [Effective Date*]
1	80-205	Alkanes (< 2% Aromatics)	2.08
2	80-205	N- & Iso-Alkanes (≥ 90% and < 2% Aromatics)	1.59
3	80-205	Cyclo-Alkanes (≥ 90% and < 2% Aromatics)	2.52
4	80-205	Alkanes (2 to < 8% Aromatics)	2.24
5	80-205	Alkanes (8 to 22% Aromatics)	2.56
6	>205-340	Alkanes (< 2% Aromatics)	1.41
7	>205-340	N- & Iso-Alkanes (≥ 90% and < 2% Aromatics)	1.17
8	>205-340	Cyclo-Alkanes (≥ 90% and < 2% Aromatics)	1.65
9	>205-340	Alkanes (2 to < 8% Aromatics)	1.62
10	>205-340	Alkanes (8 to 22% Aromatics)	2.03
11	>340-460	Alkanes (< 2% Aromatics)	0.91
12	>340-460	N- & Iso-Alkanes (≥ 90% and < 2% Aromatics)	0.81
13	>340-460	Cyclo-Alkanes (≥ 90% and < 2% Aromatics)	1.01
14	>340-460	Alkanes (2 to < 8% Aromatics)	1.21
15	>340-460	Alkanes (8 to 22% Aromatics)	1.82
16	>460-580	Alkanes (< 2% Aromatics)	0.57
17	>460-580	N- & Iso-Alkanes (≥ 90% and < 2% Aromatics)	0.51
18	>460-580	Cyclo-Alkanes (≥ 90% and < 2% Aromatics)	0.63
19	>460-580	Alkanes (2 to < 8% Aromatics)	0.88
20	>460-580	Alkanes (8 to 22% Aromatics)	1.49

*30 Days after the Regulation is approved by the Office of Administrative Law.
***Average Boiling Point = (Initial Boiling Point + Dry Point) / 2

(b) Aromatic Hydrocarbon Solvents

Bin	Boiling Range (degrees F)	Criteria	MIR Value [Effective Date*]
21	280-290	Aromatic Content (≥98%)	7.37
22	320-350	Aromatic Content (≥98%)	7.51
23	355-420	Aromatic Content (≥98%)	8.07
24	450-535	Aromatic Content (≥98%)	5.00

*30 Days after the Regulation is approved by the Office of Administrative Law.

NOTE: Authority cited: Sections 39600, 39601, and 41712, Health and Safety Code. Reference: Sections 39002, 39600, 40000, and 41712, Health and Safety Code.