

Guidance Pertaining to the Two Percent Fragrance Exemption and Limonene *For California's Regulation for Reducing Emissions from Consumer Products*

The purpose of this regulatory guidance document is to clarify the applicability of the fragrance exemption outlined in section 94510(c) of the California Air Resources Board (ARB/Board) Regulation for Reducing Emissions from Consumer Products (title 17, California Code of Regulations (CCR), sections 94507-94517) (Consumer Products Regulation) to limonene. For reference, the Consumer Products Regulation is available here: http://www.arb.ca.gov/consprod/regs/2015/article_2_final_1-22-15.pdf.

Sections 94508(a) and 94510(c)

The Consumer Products Regulation includes an exemption for fragrances up to a combined level of 2 percent by weight contained in any consumer product in section 94510(c). This applies to the entire fragrance mixture provided it meets the definition of "Fragrance," as defined in section 94508(a).

As defined in section 94508(a):

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

As described in section 94510(c), Exemptions:

Except for Pressurized Gas Duster, the VOC limits specified in Section 94509(a) shall not apply to fragrances up to a combined level of 2 percent by weight contained in any consumer product.

Background

In July 1996, ARB staff developed Compliance Advisory Number 131, Fragrance Exemptions. The purpose of the advisory was to clarify sections of the Consumer Products Regulation that cover fragrances and exemptions relating to fragrances. Advisory Number 131 is available at: <http://www.arb.ca.gov/enf/advs/advs131.pdf>.

This guidance document builds on Advisory Number 131 to specifically clarify use of limonene (and isomers of limonene) in specific consumer product categories and provide examples of when the two percent fragrance exemption applies to limonene and isomers of limonene. For the purpose of this guidance, the term "Limonene" includes limonene and isomers of limonene.

Frequently Asked Questions

The following are frequently asked questions and ARB's responses relating to use of limonene:

Question 1: What is limonene (and isomers of limonene) and how is it used in consumer products?

Response 1: Limonene is a colorless hydrocarbon classified as a cyclic terpene derived from orange (citrus fruit) peels. Limonene and isomers of limonene are classified as volatile organic compounds (VOCs) by ARB. The more common d-isomer possesses a strong scent of orange. In contrast, the l-isomer imparts a piney, turpentine-like odor. Additional to use as a scenting agent, limonene is commonly used as a solvent in cleaning products.

Question 2: Does the two percent fragrance exemption apply to use of limonene in a fragrance or air freshener product?

Response 2: Yes. The two percent fragrance exemption applies when limonene (and isomers of limonene) is used in a fragrance or air freshener product because the sole purpose of limonene in such products is to impart an odor or scent.

Question 3: Does the two percent fragrance exemption apply to use of limonene (and isomers of limonene) in a cleaning or degreasing product?

Response 3: No. It is important to note the last clause in the "Fragrance" definition (above) "...the sole purpose of which is to impart an odor or scent, or to counteract a malodor."

As described in the September 2010 Initial Statement of Reasons Proposed Amendments to the California Regulation for Reducing Emissions from Consumer Products and Test Method 310: "Determination of Volatile Organic Compounds in Consumer Products and Reactive Organic Compounds in Aerosol Coating Products" (ISOR), staff describe the function of d-Limonene in nonaerosol General Purpose Cleaner products on page VII-65. The ISOR is available for viewing here: <http://www.arb.ca.gov/regact/2010/cp2010/cpisor.pdf>.

"Nonaerosol General Purpose Cleaner products are primarily water-based products. In liquid products VOC ingredients are isopropyl and ethyl alcohols, ethylene glycol monobutyl ether, pinene, and d-limonene. The VOC content ranges from 0 to 4 percent by weight. LVP-VOCs reported include several glycol

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ethers and triethanolamine. Other ingredients reported include, surfactants, and inorganic compounds. The VOC and LVP-VOC glycol ethers, terpenes, and alcohols provide solvency to remove most soils. Inorganic compounds aid in maintaining pH and solvency. Ethanolamines are weak bases that can provide stability and texture to a product. Products generally contain a small amount of fragrance.” Emphasis supplied.

As noted in the above description for nonaerosol General Purpose Cleaner products, as well as descriptions for additional product categories in the ISOR, the primary function of limonene and isomers of limonene in cleaning or degreasing products is to provide solvency. Because the primary function of limonene is to provide solvency in such products, limonene does not meet the definition of “Fragrance,” as defined in section 94508(a)(54). As such, section 94510(c) does not apply to the use of limonene as a solvent in cleaning or degreasing products.