



Innovative Products For **Home. Work. Life.**

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via electronic transmission

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Subject: Draft Proposed Amendments to California Consumer Products Regulation;
Third Workshop¹

Dear Mr. Ramalingam, Mr. Calavita and Mr. Berghouse,

The Household & Commercial Products Association (HCPA) appreciates the opportunity to participate as an active stakeholder in the California Air Resources Board (CARB) Regulatory Strategies Work Group and the Regulatory Definitions Work Group, to discuss possible amendments to the Consumer Products Regulation. This document conveys HCPA member companies' initial comments on some of the draft proposed amendments that were presented and discussed during the third public workshop that was held on April 14.

HCPA does not object to the draft proposed product categories for "Aerosol Air Freshener."

HCPA does not object to the draft proposal to: (1) eliminate the current definitions and VOC limits for "Double Phase Aerosol Air Freshener" and "Single Phase Aerosol Air Freshener" product categories; and (2) create definitions and VOC limits for the following four new Aerosol Air Freshener categories:

- Automatic Aerosol Air Freshener
- Manual Aerosol Air Freshener
- Concentrated Aerosol Air Freshener
- Total Release Aerosol Air Freshener

¹ On April 14, 2020, CARB staff conducted the third public workshop to discuss draft regulatory strategies for meeting the commitments for VOC reductions set forth in the 2016 State Strategy for the State Implementation Plan. A copy of the CARB staff's PowerPoint presentation is found at: https://ww2.arb.ca.gov/sites/default/files/2020-04/Workshop_Presentation_April_14_2020_final_2.pdf. Other relevant documents are posted on the CARB website at: <https://ww2.arb.ca.gov/our-work/programs/consumer-products-program/regulatory-activity-workshops-meetings>

The following HCPA consensus positions are premised on the continued application of the 2% fragrance exemption.

- a. HCPA supports the draft proposed VOC limit for the “Automatic Aerosol Air Freshener” product category, but recommends a technical correction to the definition.

HCPA supports the draft 30% VOC limit for “Automatic Aerosol Air Freshener.” HCPA respectfully recommends that CARB staff make the following technical correction in the draft proposed definition:

“Automatic Aerosol Air Freshener” is an aerosol “Air Freshener” that is labeled to be used ~~exclusively~~ in an “Automatic Air Freshening Dispenser.”

By definition, if an aerosol air freshener is not labeled to be used in an “Automatic Air Freshening Dispenser,” it is a “Manual Aerosol Air Freshener.” Therefore, the word “exclusively” is not needed.

- b. HCPA can support the draft proposed definition for “Manual Aerosol Air Freshener,” and the 10% VOC limit by 2023. HCPA members could support the draft proposed 5% VOC limit if the effective date is extended from 2027 to 2031.

The draft proposed 5% VOC limit for the “Manual Aerosol Air Freshener” category poses significant technological challenges for manufacturers and will press some of these products to the very edge of feasibility and consumer acceptance. In general, ethanol constitutes most of the VOC content and is critical to create and retain particle breakup necessary to prevent droplets from falling to the floor and causing a potential slip hazard and/or causing degradation of furniture and floor finishes.

Reformulating products to comply with a 5% VOC limit will be particularly challenging for manufacturers that produce air fresheners containing high fragrance loads. If the fragrance content is lower, consumers will most likely use more product, which will erode the projected VOC reductions that CARB expects to achieve. Therefore, HCPA respectfully requests that CARB establish a 2031 effective date (as opposed to the 2027 effective date) for the 5% VOC limit.

- c. HCPA can support the draft proposed definition for “Concentrated Aerosol Air Freshener” and the 15% VOC limit by 2023. However, HCPA members believe that the draft proposed 5% VOC limit is not technologically or commercially feasible. HCPA members could support a 10% VOC limit by 2027.

HCPA members believe that the draft proposed 15% VOC limit for Concentrated Aerosol Air Fresheners by 2023 is technology-forcing, but we believe that it is possible to meet this stringent new regulatory standard. We will dedicate the time, money and effort to research and develop product formulations that will comply with this new VOC limit.

However, the draft proposed 5% VOC limit by 2031 does not appear to be achievable. As an initial matter, the draft definition for “Concentrated Aerosol Air Freshener” requires that the

product formulation contain “15% or more fragrance.” Utilizing CARB’s assumptions, on average, fragrance is comprised of 25% VOC. Thus by definition, the required amount of fragrance would be at least 3.75% VOC. This type of manual aerosol air freshener requires a minimum of 5% VOC to function properly. This 5% VOC is likely ethanol to help disperse the fragrance into the air.

Based upon these facts, the lowest feasible amount of VOC content would be 8.75%. And since some fine fragrance compounds have a higher VOC content, HCPA respectfully requests that CARB propose a 10% VOC limit by 2027. This will ensure that product manufacturers can use a variety of fragrances in formulating these products. Finally, the 2027 effective date will allow CARB to achieve additional VOC emission reductions four years earlier, which could possibly mitigate any minimal increase for the 10% VOC limit (as opposed to CARB’s proposed 5% VOC limit) in 2031 for this niche subcategory.

- d. HCPA can support the draft proposed definition for “Total Release Aerosol Air Freshener” and the 25% VOC limit by 2025.

The CARB draft proposal would establish a stringent 25% VOC limit for this niche product subcategory. HCPA member companies commit to work diligently to formulate products to comply with this new VOC limit by 2025 effective date. It is our understanding that these products, which meet the current definition for “Single Phase Aerosol Air Freshener” will be subject to the 30% VOC limit until the new definition and regulatory standard take effect in 2025.

2. HCPA member companies believe the draft proposed 6% VOC limit is not technologically or commercially feasible for the Aerosol Crawling Bug Insecticide product category. HCPA members could support a 10% VOC limit by 2029.

As detailed in the document HCPA filed on January 30, 2020 (incorporated herein by specific reference), aerosol crawling bug insecticide products are typically manufactured and labeled to control pests of significant public health importance.² The efficacy of aerosol crawling bug insecticide products is critically important as several pests that are included in this category can carry infectious diseases (*e.g.*, ticks,³ fleas, spiders). Thus, the EPA standard for products with claims to kill or control pests of significant public health importance must provide at least 90% efficacy in laboratory trials.⁴ HCPA members have serious concerns that a product

² U.S. EPA Pesticide Registration (PR Notice) Notice 2002-1. Section 28(d) of the Federal Insecticide Fungicide and Rodenticide Act [7 U.S.C. § 136w-3(d)], requires EPA, in coordination with the U.S. Department of Health and Human Services and the U.S. Department of Agriculture to identify pests of significant public health importance and, in coordination with the Public Health Service, to develop and implement programs to improve and facilitate the safe and necessary use of chemical, biological and other methods to combat and control such pests of public health importance.
See <https://www.epa.gov/sites/production/files/2014-04/documents/pr2002-1.pdf>.

³ Various tick species transmit diseases such as Lyme disease, tick-borne relapsing fever, ehrlichiosis, and Rocky Mountain spotted fever.

⁴ Guidance on Efficacy Testing for Pesticides Targeting Certain Invertebrate Pests (EPA), see <https://www.epa.gov/pesticide-registration/guidance-efficacy-testing-pesticides-targeting-certain-invertebrate-pests>.

reformulated to comply with the draft proposed 6% VOC limit will not meet this high efficacy standard.

While propellants constitute the majority of the VOCs contained in these products, the propellants are also solvents that aid in the delivery and the efficacy of the active pesticidal ingredient to control the target pest. Therefore, reformulation entails more than simply reducing the VOC level (usually the propellants) and replacing it with greater levels of other ingredients already in the formulation.

Each active ingredient is different in the mode of action for toxicity, the optimal delivery method to the target organism, and the claims made on the product. CARB staff should not assume that because the amount of active pesticide ingredient is relatively small that the other ingredients are irrelevant and can be changed without significantly altering the functionality of the product.

The aerosol delivery form is a complex system – both the formulation’s physical and chemical properties and container stability must be retested after any formulation modification. Further, altering the formulation can modify how the product sprays (*i.e.*, particle size distribution). More importantly, particle size distribution can negatively impact efficacy, even if the active ingredient remains unchanged. The formulation is designed to deliver a narrow range of droplet sizes and changes would significantly alter the product functionality. Research has been performed on aerosol products showing that changes in droplet size, even small changes in the range of 14-30 microns, significantly changes the efficacy of an aerosol pesticide.⁵

If consumers do not see the quick results that they are accustomed to experiencing, there may be an unintended consequence of over-application, thereby resulting in consumers being exposed to a higher level of pesticide than approved by EPA for a single application of the product.

- a. Product manufacturers have serious concerns about their ability to produce efficacious aerosol crawling bug insecticide products with quick kill claims without an adequate amount of hydrocarbon propellants.

Manufacturers have concerns that the use of non-VOC propellants, such as compressed gas, could raise the pressure in the product containers. This could have a negative effect on product safety. Higher aerosol container pressure will cause more breakup of the spray pattern creating smaller particles. This combination of smaller particles and greater pressure in the delivery could create a situation in which the particles would “bounce-back” towards the applicator (*i.e.*, the consumer).

In the case of compressed gases, effects of the greater pressure would be dependent on formulation. Unlike aerosol wasp and hornet insecticides, which are designed to deliver the product in a stream to a nest, and therefore particle size is not relevant, aerosol crawling bug

⁵ “Effect of different droplet size on the knockdown efficacy of directly sprayed insecticides,” Masaaki Subira, Yoshihiro Horibe, Hitoshi Kawadab and Masahiro Takagi, SCI (wileyonlinelibrary.com) DOI 10.1002/ps.2157 (May 11, 2011). See <http://www.tm.nagasaki-u.ac.jp/medical/PDF/Pest%20Manag%20Sci%2067%201115-1123.pdf>

insecticides need to deliver the product in a spray pattern and particle size with optimal range for safety and efficacy. Oil based products will have the tendency to create a smaller particle size with the higher pressure from the use of a compressed gas, as noted above. The continuous oil phase is more easily broken up. With water-based products the effect of higher pressure from a compressed gas may be variable depending on formulation. In general, continuous water phase is harder to breakup, and it is achieved with both mechanical means and the evaporation of the liquified propellant in current formulations. The replacement of the liquid propellant with a compressed gas would limit the ability to reduce the particle size in low solvent water-based products.

Furthermore, the use of compressed gases or very low amounts of hydrocarbon propellant may not produce a sufficient amount of dispersant energy to completely empty the contents of the container, causing the partially empty product container to be disposed in the household hazardous waste stream rather than being recycled.⁶ While this consideration is outside of the scope of the VOC regulation, this would have a negative impact on California's environment and manufacturers' sustainability profiles.

- b. HCPA respectfully requests that CARB staff review the labels (collected as part of the 2013, 2014 and 2015 Consumer and Commercial Products Surveys) for products that reported VOC content lower than the currently applicable 15% VOC limit.

The currently applicable 15% VOC limit provides manufacturers with sufficient flexibility to formulate products that can kill a large number of crawling insects, which are listed on the EPA-approved master product label. HCPA members are concerned that products that are reported at the lower VOC levels⁷ may not have been approved by EPA to kill as many different insects, or may be "minimum risk pesticides" (*i.e.*, FIFRA 25(b) products),⁸ which are exempt from FIFRA registration data requirements, including EPA regulations on efficacy and toxicity. Thus, we

⁶ The California Department of Resources Recycling and Recovery states, "Aerosol containers are generally made of steel, which is easily recycled; however, full or partially-full aerosol containers cannot be placed at the curb because they are under pressure and may pose a hazard to solid waste workers and others. The best bet with aerosols is to completely use up the contents of the can, including the propellant. If this cannot be safely done, the product should be disposed at your local household hazardous waste (HHW) collection site or at a locally sponsored HHW event." See <https://www.calrecycle.ca.gov/metals/paintcans>. The EPA states, "The Agency believes that recycling of empty metal aerosol pesticide containers can be safely and appropriately accomplished. Recycling can preserve valuable metal resources and reduces the demand on diminishing land-fill space." PRN 94-2: Recycling Empty Aerosol Pesticide Containers (May 16, 1994). See <https://www.epa.gov/pesticide-registration/prn-94-2-recycling-empty-aerosol-pesticide-containers>.

⁷ "Category Overview: Crawling Bug Insecticide Possible VOC Thresholds," CARB Regulatory Strategies Work Group Webinar (Oct. 17, 2019) at Slide 84. See https://ww2.arb.ca.gov/sites/default/files/2020-04/Remediated_work_group_presentation_101719.pdf.

⁸ Under section 25(b) of FIFRA, certain pesticides products are considered to be "minimum risk pesticides" if the active ingredients in the pesticide product are listed in 40 CFR 152.25. See also [Title 3 California Code of Regulations Sections 6147-6148](#).

believe that these current products with lower VOC's cannot be compared fairly with crawling bug insecticide products that comply with the current 15% VOC limit.

HCPA respectfully requests that CARB staff review product label claims for the products that were reported at the various lower VOC limit thresholds:

- Active ingredient
- Concentration of active ingredient
- Use site
- Application method (*i.e.*, contact, residual, insect growth regulator, crack and crevice)
- Quick-kill or knock-down claims
- Residual control claims
- Is the product a minimum risk pesticide (*i.e.*, FIFRA 25(b) product)

HCPA members believe that after reviewing these key product claims, CARB staff will clearly see that there is a fundamental difference between products currently formulated at the 15% VOC level and products that were reported at the lower VOC levels.

- c. HCPA respectfully urges CARB to propose a 10% VOC limit with a 2029 effective date for this product category.

Products approved by EPA to kill or control pests of significant public health importance are required to achieve at least 90% efficacy in laboratory trials. For reasons stated above, reformulating products to meet a technology-forcing 10% VOC limit presents an exceedingly difficult challenge. HCPA member commit to expend a considerable of time, resources and effort in the hope of meeting this challenge.

3. CARB should provide a clearer delineation between products that are subject to the Consumer Products Regulation and products that are used only in the manufacturing process.

HCPA member companies support the CARB's preeminent authority to regulate consumer and commercial products at the statewide level. While it is abundantly clear that CARB's comprehensive Consumer Products Regulation applies to "household products," there is potential ambiguity as to whether some products sold to industrial facilities are subject to CARB's statewide VOC limits. Therefore, HCPA believes that CARB staff should amend the current regulation to provide a clearer "bright line" regulatory delineation between: (1) consumer and commercial "institutional products" or "industrial and institutional (I&I) products;" and (2) industrial products that are used only in the manufacturing process.

To remove potential ambiguity about the applicability of CARB's statewide VOC limits to products that are sold to industrial facilities, HCPA recommends that CARB consider deleting the existing exemption set forth at Section 94510(m), which by its terms expired on December 31, 2013, and replacing it with the following provision:

(m) This article shall not apply to any product that is (A) exclusively sold directly or through distributors to establishments which manufacture or construct goods or commodities; and (B) labeled exclusively for "use in the manufacturing process only."

HCPA believes that this narrowly-tailored exemption will eliminate potential ambiguity as to the applicability of the CARB's statewide regulatory standards. Moreover, HCPA believes that this revision will promote efforts by the CARB Staff to restrict the sale of unregulated products to consumers.

4. HCPA has concerns about the proposed revisions to Method 310.

HCPA members continue to carefully review the extensive revisions to Method 310 that the Monitoring and Laboratory Division (MLD) presented during the April 20th webinar. At this point, HCPA members have identified two primary concerns.

In addition, stakeholders need to have a better understanding of the draft proposed revisions to Method 310. Therefore, HCPA requests the MLD conduct a second webinar to provide more information about the rationale for proposing the revisions as detailed in the "underline strikeout" document.⁹

- a. The draft definition of the term "compound" should be revised to include petroleum distillates and UVCBs.

While HCPA members support clear definitions for frequently used regulatory terms, we are concerned that the draft proposed definition of the term "compound"¹⁰ would exclude petroleum distillates and unknown or variable composition biological materials (UVCBs).¹¹ Therefore, HCPA respectfully recommends that CARB MLD should consider the following concept language for the term "compound," which includes compounds identifiable by a single molecular structure as well as more complex molecules. This concept language was derived from documents developed by the [EPA](#) with updates from the [OECD](#):

⁹ See Proposed MLD Method 310 Underline Strikeout Language, posted on CARB website at: https://ww2.arb.ca.gov/sites/default/files/2020-03/M310_Amendment_8_strikeout_underline.pdf.

¹⁰ The MLD's proposed definitions are presented in a document posted at: https://ww2.arb.ca.gov/sites/default/files/2020-03/MLD_CP_REGS_CHANGES_031720.pdf.

¹¹ UVCB substances may either be unknown, variable, complex or biological, or any combination thereof. Classes of UVCBs can be defined by common characteristics (e.g., structural features, a significant precursor), but no single set of rules exists that can adequately define them all. Internationally-recognized guidelines have been developed by several industries which lay out principles for substance identification and hazard and risk assessment for broad categories of UVCB substances which can be consulted. See [OECD guidance for characterizing UVCB hydrocarbon solvents](#) and [OECD guidance for characterizing UVCB substances](#).

Types of chemicals:

Class 1 substances are those single compounds composed of molecules with particular atoms arranged in a definite, known structure. Examples of Class 1 substances include: acetone, iron, benzene and dimethylmercury. These substances have discrete molecular formulas and fully defined structural diagrams.

Many commercial substances are not Class 1 substances, however. They may have unknown or variable compositions or can be composed of a complex combination of different molecules. These are designated Class 2 substances.

Class 2 substances can be further divided into three subgroups. The first subgroup includes substances that can be represented by definite Hill ordered molecular formulas but have variable structural diagrams. An example of this first subgroup is xylene, in which the location of the substituent groups is variable. The second subgroup includes substances that can be represented by definite molecular formulas but have unknown structural diagrams, such as aluminum cerium nickel sulfide, AlCe3NiS7. The third subgroup includes substances that have no definite molecular formula representation and either partial structural diagrams or no structural diagrams. These are the unknown or variable composition complex reaction products, biological materials (UVCB) substances.

HCPA appreciates CARB MLD's consideration of this concept language in developing a more complete and accurate definition of the term "compound."

- b. Section 3.5.2 of Method 310 should include an express reference to ASTM D86-01 as an appropriate test method.

HCPA is concerned about the draft proposal to insert a single test method (ASTM D2887-01) in Section 3.5.2 (*i.e.*, the section that establishes the procedure for performing the boiling point analysis for determining whether a compound or mixture is a low vapor pressure VOC).¹²

Currently, CARB uses several test methods, including ASTM D86-01, to determine the boiling point of a consumer product.¹³ ASTM D86-01 is a widely-accepted test method that has been used in conjunction with the 216°C boiling point for determining if a compound or mixture is an LVP-VOC. HCPA members are concerned that the MLD's draft proposal to only cite ASTM D2887-01 in Section 3.5.2, may result in changing the LVP-VOC status of some compounds or mixtures that are used to formulate consumer products.

¹² CARB MLD's proposed revisions to Method 310 was presented at a public webinar held on April 20, 2020. See https://ww2.arb.ca.gov/sites/default/files/2020-03/M310_Amendment_8_strikeout_underline.pdf

¹³ See Method 301 Section 3.5.1.2.

In particular, HCPA members are concerned that the MLD had not articulated a reliable boiling point correlation between ASTM D86-01 and ASTM D2887-01. In the absence of such a correlation, HCPA recommends that Section 3.5.2 should:

- Delete the singular reference to ASTM D2887-01 and refer to ASTM D86-01 and the other test methods specified in Section 3.5.1 for performing boiling point analysis; and
- Restore the original text of Section 3.5.2 without any changes, with exception of any necessary harmonization of the terms “compound” or “mixture.”

HCPA members strongly support the continued use of ASTM D86-01 as a test method for determining the LVP-VOC status of a compound or mixture. During the past several decades, the industry has invested heavily in ASTM D86-01 in terms of equipment and personnel training. Moreover, industry uses the test method to support compliance with numerous regulations. Therefore, a shift to another analytical test method would be extremely disruptive, requiring new personnel training and the possible purchase of new expensive equipment.

5. The use of HFC-152a provides a necessary option for complying with CARB’s stringent current and draft proposed VOC limits.

The propellant HFC-152a continues to be a necessary option for product manufacturers to comply with CARB’s stringent current and proposed VOC limits. The continued use of HFC-152a is safe and does not pose a risk to public health.

There are no current federal or state regulation restricting the use of HFC-152a. Moreover, the Kigali Amendment to the Montreal Protocol does not propose to ban – or even phase-out – the use of HFC-152a in consumer aerosol products or in any other applications.

HFC-152a has one of the lowest global warming potential (GWP) values of all HFCs, with GWP = 124, and its use in consumer aerosol products is characterized by low mass emissions compared to other HFC applications. Specifically, the impact of HFC-152a in consumer aerosol products represents 0.028 % of the contribution to global warming from greenhouse gases (GHGs).¹⁴

In addition, HFC-152a has a minimal impact on atmospheric reactivity as evidenced by its maximum incremental reactivity (MIR) level of 0.02. Thus, HFC-152a is an effective solution for reducing VOC levels. For the foreseeable future, HFC-152a must be kept in the VOC reduction “toolbox” for product manufacturers when formulating products to comply with CARB’s technically challenging VOC limits.

Currently, the CARB Atmospheric Sciences and Climate Strategies Branch Greenhouse Gas Reduction Strategy Section is conducting ongoing work to implement the California Significant New Alternatives Policy (SNAP), as mandated by the California Cooling Act. Therefore, HCPA respectfully

¹⁴ “Potential Impact of the Kigali Amendment on California HFC Emissions,” CARB (Dec. 15, 2017). See <https://ww2.arb.ca.gov/resources/documents/potential-impact-kigali-amendment-california-hfc-emissions>.

recommends that the Consumer Products and Air Quality Assessment Branch defer any further consideration of future action on HFC-152a until after the Greenhouse Gas Reduction Strategy Section issues their decision on appropriate regulatory action for implementing the requirements of California SNAP.

Conclusion

This document presents HCPA member companies' consensus positions on some of the draft regulatory strategies that were presented and discussed during CARB's third public workshop.

Aerosol Air Fresheners, premised upon the continued application of the 2% fragrance exemption:

- Support the draft proposed VOC limit for the "Automatic Aerosol Air Freshener" product category, but recommends a technical correction to the definition.
- Support the draft proposed definition for "Manual Aerosol Air Freshener," and the 10% VOC limit by 2023. Support the draft proposed 5% VOC limit if the effective date is extended from 2027 to 2031.
- Support the draft proposed definition for "Concentrated Aerosol Air Freshener" and the 15% VOC limit by 2023.
 - Draft proposed 5% VOC limit is not technologically or commercially feasible;
 - Support a 10% VOC limit by 2027.
- Support the draft proposed definition for "Total Release Aerosol Air Freshener" and the 25% VOC limit by 2025.

Aerosol Crawling Bug Insecticide:

- Draft proposed 6% VOC limit is not technologically or commercially feasible.
- HCPA members could support a 10% VOC limit by 2029.

Method 310:

- Proposed definition of the term "compound" should be revised to include petroleum distillates and UVCBs.
- Section 3.5.2 of Method 310 should specifically refer to ASTM D86-01 as an appropriate test method.

Other draft regulatory strategies:

- HCPA recommends that CARB adopt a narrowly-tailored regulatory provision to more clearly identify products that are used only in the manufacturing process.

- The use of HFC-152a provides a necessary option for complying with CARB's stringent current and draft proposed VOC limits.

We appreciate CARB Staff's consideration of issues addressed in HCPA's initial comments. HCPA and our member companies commit to continue to work cooperatively with other stakeholders and CARB Staff to develop technologically and commercially feasible VOC limits for the products and other provisions included in this rulemaking.

HCPA will be filing additional comments on other draft proposed amendments that were presented and discussed during CARB's third public workshop that was held on April 14.

Please contact us if you have questions about issues addressed in these comments.

Respectfully,

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HCPA Air Quality Council