



March 22, 2021

**VIA ELECTRONIC SUBMISSION**

California Air Resources Board  
Clerks' Office  
1001 I Street  
Sacramento, California 95814

**Re: Comments of Fragrance Creators Association on CARB's Proposed Amendments to the Consumer Products Regulation**

Fragrance Creators Association (Fragrance Creators) appreciates the opportunity to provide comments on the California Air Resources Board's (CARB's) proposed amendments to the Consumer Products Regulation (Proposed Amendments).

Fragrance Creators Association is the principal fragrance trade association in the United States and Canada. The organization represents the majority of fragrance manufacturing in North America, and a significant majority of our membership includes small businesses. The association also represents interests along the fragrance value chain. Fragrance Creators' membership is diverse, including companies that create, manufacture, and use fragrances and scents for home care, personal care, home design, fine fragrance, and industrial and institutional products as well as those that supply fragrance ingredients, including natural extracts and other raw materials that are used in perfumery and fragrance mixtures.<sup>1</sup>

Fragrance Creators very much appreciates CARB staff's consideration of our prior feedback, efforts to address concerns, and engagement with the fragrance value chain. Fragrance Creators supports the agency's mission to promote and protect public health, welfare, and ecological resources through effective reduction of air pollutants while recognizing and considering effects on the economy. For consumer products, Section 41712 of the California Health and Safety Code requires CARB to adopt regulations to achieve the maximum feasible reduction in Volatile Organic Compound (VOC) emissions from consumer products. Fragrance Creators understands this authority and acknowledges VOC reduction as a requirement limited only by commercial and technical feasibility. Fragrance Creators offers comments to center the conversation on VOC reductions, identifying below where CARB's proposals for the Two Percent Fragrance Exemption

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<sup>1</sup> Learn more about Fragrance Creators at [fragrancecreators.org](https://www.fragrancecreators.org)—for people, perfume, and the planet.

and the Personal Fragrance Products category present difficulties.<sup>2</sup> Fragrance Creators respectfully requests that CARB take note of these difficulties, as outlined below, and continue to work with our members moving forward.

**I. Fragrance Creators Does Not Support “Sunsetting” the Two Percent Fragrance Exemption.**

In the Proposed Amendments, CARB proposes to sunset the Two Percent Fragrance Exemption by 2031, with a modified 0.25 percent fragrance exemption for select product categories, including general purpose cleaners and degreasers, air fresheners, disinfectants, and sanitizers. Fragrance Creators appreciates the extension of the timeline to 2031. However, Fragrance Creators has previously raised concerns regarding CARB’s proposal to sunset the Two Percent Fragrance Exemption, and writes again to reiterate the importance of the Exemption to the fragrance and consumer products industries, as well as to consumers.

**A. Fragrance Is a Critical Component of Consumer Products, and the Two Percent Fragrance Exemption Is An Important Tool in the Formulation Toolkit.**

As Fragrance Creators has explained in prior comments, fragrance is a critical component of consumer products: it encourages proper product use; covers base malodors; and creates a mechanism for product manufacturers to differentiate between brands and products. For example, since this rulemaking began, the fragrance value chain has been instrumental in responding to COVID-19. The Cybersecurity and Infrastructure Security Agency (CISA) updated its Guidance, [Essential Critical Infrastructure Workforce \(ECIW\): Ensuring Community and National Resilience in COVID-19 Response](#), to explicitly include fragrance manufacturers.<sup>3</sup> Research has also shown that fragrance plays a critical role in our emotions and experiences—from nurturing warm memories and our sense of home; to promoting positive self-image and self-confidence; and aiding in our well-being and psychological health, including reducing stress, sparking joy, and promoting brain function. It is for these reasons that CARB adopted the Two Percent Fragrance Exemption thirty years ago, explaining that the exemption would allow manufacturers to use a “de minimis level” of fragrance in their consumer products “such that the products may be

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<sup>2</sup> Fragrance Creators’ comments focus on VOC reductions, but we note that fragrances are one of the most highly tested ingredients in the consumer product marketplace. For over fifty years, the fragrance industry has led on safety with its robust management program that generates and evaluates data, considers consumer use of ingredients, and restricts or bans materials when scientifically necessary. Fragrances and fragranced products are subject to many state and federal laws that govern how people experience fragrance—including in their environment, in personal care and household care products, worker safety, transportation, product labeling, and more. In the U.S., the fragrance industry is regulated by several government agencies, including the Food and Drug Administration (FDA), the Environmental Protection Agency (EPA), the Consumer Product Safety Commission (CPSC), the Occupational Safety and Health Administration (OSHA), and dozens of state and federal laws.

<sup>3</sup> Learn more at <https://www.fragrancecreators.org/covid-19/resource/fca-cisa-covid-19-guidance-to-include-fragrance>.

marketed in an appealing manner to consumers.”<sup>4</sup> The consumer products industry has relied on this exemption for many years to formulate products that both work as intended and comply with the volatile organic compound (“VOC”) emission limits for their product category, while still imparting a scent that drives consumer acceptance and other benefits. The Two Percent Fragrance Exemption thus enables product manufacturers to deliver efficacious products to the market that meet consumers’ needs.

Without an exemption for fragrance, product manufacturers—across a wide range of product categories and products—would have to expend a significant amount of time, money, and effort to reformulate products that were developed with the reasonable expectation that the long-standing exemption for fragrance would remain in effect. Reformulating just a single consumer product is a costly and time-consuming process that involves multiple stages, including design and development of multiple fragrance options; production of sample fragrance oils; testing of each fragrance oil sample for hedonics, performance, and stability; regulatory review to ensure each fragrance oil sample meets the product manufacturer’s specifications; and production of the selected formulated fragrance for distribution to the product manufacturer.<sup>5</sup>

In addition, reformulation often is an iterative process, such that these steps must be repeated several times (for both the fragrance itself and the overall consumer product for which the fragrance is just one component). Reformulating many products—as likely would be required under CARB’s proposal to eliminate the fragrance exemption—would thus be an extraordinarily time-consuming and costly endeavor, diverting resources from other efforts such as research and development. Moreover, reformulation is not automatic; there is no guarantee that the reformulated fragrance will be as successful (e.g. olfactively, commercially) as the previous version. And even if CARB is correct that the Two Percent Fragrance Exemption is not widely used, manufacturers still would have to review each of their products to ensure that the formulations comply with the applicable VOC limits without the Two Percent Fragrance Exemption. In either case, sunseting the Two Percent Fragrance Exemption would impose a significant and costly burden on product manufacturers, while achieving only marginal reductions in VOC emissions.

In short, CARB’s proposal to sunset the Two Percent Fragrance Exemption entirely for the vast majority of product categories (and in significant part for the general purpose cleaner and degreaser, air freshener, disinfectant, and sanitizer categories) threatens to eliminate certain products from the California market because they would no longer be technologically and/or commercially feasible—i.e., they could not be formulated to both work as intended and comply with the low VOC limits for their product category while still imparting a scent that drives consumer acceptance and other benefits.

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<sup>4</sup> CARB, *Proposed Regulation to Reduce Volatile Organic Compound Emissions From Consumer Products*, Technical Support Document at 6-7 (Aug. 1990), available at [ww3.arb.ca.gov/consprod/regact/ph1cptsd.pdf](http://ww3.arb.ca.gov/consprod/regact/ph1cptsd.pdf).

<sup>5</sup> See Fragrance Creators’ May 14, 2020 Comments for additional information.

Because fragrance is an integral component across all consumer product types, sunseting the Two Percent Fragrance Exemption would affect virtually every product category. Should CARB move forward with this proposal, retaining the extended 2031 timeline is necessary to address the impact on the supply chain.

B. CARB's VOC-Reduction Goals Do Not Support Sunseting the Two Percent Fragrance Exemption.

Fragrance Creators remains concerned that CARB's proposal to sunset the Two Percent Fragrance Exemption is not supported by CARB's VOC-reduction goals and is disproportionately driven by other considerations that are outside the scope of CARB's statutory mandate to reduce VOC emissions in a manner that is commercially and technologically feasible and necessary. See Health & Safety Code § 41712(b). In particular, sunseting the Two Percent Fragrance Exemption results in a relatively small reduction in VOC emissions (only 0.3 tons per day based on CARB's calculation),<sup>6</sup> but—as described above—will impose significant costs and burdens on manufacturers across a wide range of product categories.

1. *Fragrance Creators Supports Sound Science.*

CARB asserts that sunseting the Two Percent Fragrance Exemption would achieve several benefits beyond VOC reductions, including addressing concerns raised by some commenters regarding the potential impact of fragrance on public health.<sup>7</sup> Specifically, CARB states that sunseting the exemption could protect public health by improving indoor air quality, noting that “[e]xposure to fragrance chemicals in many consumer products has been linked to multiple chemical sensitivity (MCS).”<sup>8</sup> These assertions regarding the potential health effects of fragrance are unfounded.

To the extent that CARB cites certain studies, Fragrance Creators believes the record should fully contemplate fragrance science. In fact, unaddressed malodors can create a variety of unpleasant conditions and emotional impacts in indoor environments as well as public spaces. A number of studies have shown that fragrances and scents—especially those found in products with additional odor-eliminating components—can be used to counter malodor, which promotes public health and enhances mood and quality of life.<sup>9</sup>

For more than 50 years, the Research Institute for Fragrance Materials (RIFM)<sup>10</sup> has worked to build universal acceptance and trust in the safe use of fragrance materials through applied

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<sup>6</sup> See Initial Statement of Reasons (“ISOR”), at III-74 (Feb. 2, 2021).

<sup>7</sup> *Id.* at III-75.

<sup>8</sup> *Id.* at VI-206-207.

<sup>9</sup> See, e.g., [https://www.tandfonline.com/doi/abs/10.1207/s15324834basp0402\\_5](https://www.tandfonline.com/doi/abs/10.1207/s15324834basp0402_5); <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3794443/>; and <https://academic.oup.com/chemse/article/39/3/185/502849>.

<sup>10</sup> Learn more about RIFM at <https://www.rifm.org>.

science and research. RIFM is a nonprofit scientific authority that gathers and analyzes scientific data related to the use of fragrance. The RIFM Database is the most comprehensive, worldwide source of toxicology data, literature and general information on fragrance and flavor raw materials, classifying more than 6,000 materials. RIFM reviews upwards of 50 journals a month, conducts literature searches, and regularly collects member company data to keep the RIFM Database as complete as possible. With upwards of 70,000 references that include more than 135,000 human health and environmental studies, the Database also houses RIFM's full Safety Assessments and several tools that are crucial to RIFM's Fragrance Ingredient Safety Assessment and Research programs. All of RIFM's research is reviewed by an independent Expert Panel<sup>11</sup> composed of dermatologists, pathologists, toxicologists, and respiratory scientists from around the world who have no commercial ties to the fragrance industry.

Accordingly, any assessment of fragrance-related health concerns must consider the full universe of available information, rather than a few select (and flawed) studies. In any event, though we appreciate CARB receives broad stakeholder input, such considerations do not relate to CARB's statutory mandate to reduce VOC emissions, and, therefore, should not factor into CARB's decision-making process.

## *2. Consumers Want and Use Fragranced Products.*

The overwhelming majority of consumers want and use fragranced products. As a result, sunseting the Two Percent Fragrance Exemption will not result in the elimination of fragrance from consumer products. Instead, sunseting the exemption will lead to unintended consequences as manufacturers try to find ways to meet consumer demand while complying with the CARB requirements. For example, if the Two Percent Fragrance Exemption is eliminated for most product categories as proposed, manufacturers may need to replace VOC ingredients in fragrance with LVP-VOC ingredients. Using a higher proportion of LVP-VOC ingredients will change the character of many fragrances. And importantly, because LVP-VOC ingredients do not evaporate as quickly as VOC ingredients, in order to achieve the same "fragrance throw," the total fragrance concentration in the product may need to be increased. This can be done by replacing VOC ingredients with even larger amounts of LVP-VOC ingredients. In addition, consumers may use more of the product to achieve the same fragrance effect. As a result, it is not at all clear that sunseting the Two Percent Fragrance Exemption will reduce overall VOC emissions. On the contrary, in some products, it may lead to a substantial increase in the total volume of fragrance used and released into the environment.

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<sup>11</sup> Learn more about the Expert Panel for Fragrance Safety at <http://fragrancesafetypanel.org/>.

3. *Addressing CARB's Interest in Transparency and Simplifying Compliance Could Be Achieved without Elimination of the Two Percent Fragrance Exemption.*

CARB also states that eliminating the Two Percent Fragrance Exemption would encourage transparency and simplify compliance determinations.<sup>12</sup> Fragrance Creators submits, respectfully, that addressing CARB's interest in transparency and simplifying compliance determinations could be achieved through other avenues and does not require eliminating the Two Percent Fragrance Exemption entirely. Fragrance Creators is proud to have been a primary stakeholder, and the lead representative on fragrance issues, for the *Cleaning Product Right to Know Act* (SB 258) and the *Cosmetic Fragrance and Flavor Ingredient Right to Know Act of 2020* (SB 312)<sup>13</sup>. As an active participant in creating a predictable, understandable ingredient communication framework in California, Fragrance Creators and its members are happy to work with CARB to address the agency's concerns. Fragrance Creators has already taken direct responsibility for increasing consumer understanding through the development of [The Fragrance Conservatory](#), the comprehensive digital resource for high-quality information about fragrance. But, transparency considerations do not warrant eliminating the Two Percent Fragrance Exemption entirely as CARB has proposed.

C. Fragrance Creators Supports Maintaining Some Exemption for Fragrance for Certain Product Categories and Recommends that CARB Adopt a Definition of "Monoterpenes."

Fragrance Creators urges CARB to retain an exemption for fragrance of at least 0.5 percent for all applicable product categories. If CARB intends to follow through on its proposal to sunset the Two Percent Fragrance Exemption, however, Fragrance Creators supports retaining a limited exemption for fragrance for as many products as possible. Thus, Fragrance Creators supports retaining at least a 0.25 percent fragrance exemption for general purpose cleaners and degreasers, air fresheners, disinfectants, and sanitizers, as proposed by CARB.

Fragrance Creators also supports CARB's proposal to allow monoterpenes up to a combined 0.25 percent by weight to be exempt as part of the 0.25 percent fragrance exemption for non-aerosol general purpose cleaners and degreasers. For clarity, Fragrance Creators recommends that CARB adopt the following definition of "monoterpenes" relating to sections 94510(c)(1) and 94510(c)(3):

"Monoterpenes," which means the following chemicals, as listed in the table below, used in General Purpose Cleaner (nonaerosol) and General Purpose Degreaser (nonaerosol) products.

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<sup>12</sup> See ISOR at III-74-75.

<sup>13</sup> Previously introduced as SB 574 and referred to as such in the ISOR at II-30.

Table 94509(s)	
Specified Monoterpenes relating to sections 94510(c)(1) and 94510(c)(3)	
Monoterpene	CAS Registry Number
d-limonene	CAS # 5989-27-5
l-limonene	CAS # 5989-54-8
dipentene (dl-limonene)	CAS # 138-86-3 / 7705-14-8
$\alpha$ -pinene	CAS # 80-56-8
$\alpha$ -Pinene (laevo isomer)	CAS # 7785-26-4
$\alpha$ -Pinene (dextro isomer)	CAS # 7785-70-8
$\beta$ -pinene	CAS # 127-91-3
$\beta$ -Pinene (laevo isomer)	CAS # 18172-67-3

Fragrance Creators has coordinated with other trade associations (including the Household & Commercial Products Association and the Personal Care Products Council) in developing this definition and believes that adopting a definition by reference to CAS numbers will provide clarity for regulated parties and mitigate any concerns regarding circumvention. Fragrance Creators respectfully request that CARB finalizes a definition for “monoterpenes” during the 15-day amendment period. Fragrance Creators would appreciate the opportunity to discuss further with CARB staff. Additionally, we ask CARB withdraw the Monoterpenes Guidance Document,<sup>14</sup> as the issues contemplated will be incorporated by this proposal.

## **II. Fragrance Creators is Committed to Working with CARB Staff Regarding Challenges with the Personal Fragrance Products Proposal.**

Under CARB’s Proposed Amendments, Personal Fragrance Products with 7 percent or less fragrance would be subject to a VOC standard of 70 percent by weight starting January 1, 2023 (the Tier 1 Standard). Starting January 1, 2031, Personal Fragrance Products with 10 percent or less fragrance would be subject to a VOC standard of 50 percent by weight (the Tier 2 Standard). CARB also proposes to conduct a technology assessment by 2027 to evaluate whether the Tier 2 Standard is feasible.

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<sup>14</sup> Guidance Pertaining to the Two Percent Fragrance Exemption and Limonene, available at [https://ww2.arb.ca.gov/sites/default/files/2020-04/Remediated\\_frag\\_exempt\\_guide.pdf](https://ww2.arb.ca.gov/sites/default/files/2020-04/Remediated_frag_exempt_guide.pdf)

Fragrance Creators values the ongoing dialogue and collaboration with CARB staff to develop new VOC targets for Personal Fragrance Products, and generally supports CARB's commitment to undertake a technology assessment to reevaluate the feasibility of the Tier 2 Standard. Fragrance Creators remains committed to working with CARB and the fragrance industry on this technology assessment. Fragrance Creators notes, however, that the proposed VOC limits may not be technologically, nor commercially, feasible across all of the subcategories of Personal Fragrance Products. As Fragrance Creators explained previously, for the vast majority of fine fragrance products (colognes, perfumes, parfums, eau de parfum, eau de toilette, etc.), compliance with the more stringent limits would be very difficult (at 70 percent) if not impossible (at 50 percent). Indeed, CARB's data shows that only an exceedingly small percentage of the market (5%) currently meets the Tier 2 Standard, and Fragrance Creators expects that this percentage is even lower (if not zero) for fine fragrance products.<sup>15</sup>

CARB states that it expects Personal Fragrance Products can be reformulated by replacing some of the ethanol content with water, or by utilizing solubilizers to facilitate compliance with the 50 percent standard.<sup>16</sup> Fragrance Creators believes that these alternatives are likely to present significant feasibility challenges, particularly for fine fragrance products. As CARB notes, fine fragrance products are the "most simply formulated products" and consist predominantly of fragrance, ethanol, and water.<sup>17</sup> Given the limited ingredients in these products, even a small change to the formulation changes the olfactory character of the product such that it loses its identity, which is particularly problematic for many longstanding and iconic fine fragrance products for which consumers expect a certain, consistent scent. In addition, industry already has evaluated several possible alternatives to ethanol (such as propylene glycol, isopropyl myristate, other alcohols, and phthalates) and determined that they are not feasible either because of technical concerns (odor, solubility, stability, etc.) or real and/or perceived health and environmental safety issues.

In sum, the composition of products in the fine fragrance category, coupled with the lack of commercially or olfactively viable alternative ingredients, makes CARB's proposal for the Personal Fragrance Products category especially challenging. Nevertheless, Fragrance Creators appreciates CARB's efforts to address industry concerns and is committed to working with CARB on the technology assessment to further evaluate feasibility of the Tier 2 Standard.

Fragrance Creators offers the following additional comments on the Proposed Amendments with respect to the technological assessment for the Personal Fragrance Products category:

- Section 94513(i)(1)(A) of the Proposed Amendments provides that responsible parties shall provide "data regarding . . . the VOC content of fragrance ingredients . . . ." Fragrance Creators suggests that this provision be revised to require data

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<sup>15</sup> See ISOR at III-63.

<sup>16</sup> See ISOR at III-64.

<sup>17</sup> See ISOR at III-60.



regarding the VOC content of the “fragrance concentrate” or “fragrance mixture,” as it is not possible to determine the VOC content of each individual ingredient of the fragrance mixture.

- Section 94513(i)(1)(B) of the Proposed Amendments provides that responsible parties shall provide a written update on research and development efforts, which shall include a detailed description of steps taken to achieve compliance, including “types of formulations to be tested,” “formulation data,” “prototype testing,” “toxicity testing and research,” “stability testing,” and “consumer acceptance research.” Fragrance Creators suggests that CARB add to this list “olfactory/odor expert acceptance testing.” A fragrance product must be deemed acceptable by an olfactory/odor expert before it can be marketed and sold, and therefore this criterion is critical to evaluating technological feasibility.

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Thank you for your time and consideration. Please do not hesitate to contact me if you have any questions or if there is additional information Fragrance Creators can provide to assist with the rulemaking process.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Amanda Nguyen', with a stylized flourish at the end.

Amanda Nguyen, J.D.

Vice President, Government Affairs & Legal