Personal Care Products Council
Committed to Safety, Quality & Innovation

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Via Electronic Mail
Joe Calavita
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California Air Resources Board
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RE: Comments on California Air Resources Board's "Staff Report: Initial Statement of Reasons", dated February 2, 2021

Dear Mr. Calavita:

In response to the California Air Resources Board (CARB) publication of its Initial Statement of Reasons (ISOR) on February 2, 2021, the Personal Care Products Council (PCPC)[1] is pleased to submit the following comments on the proposed amendments to the Consumer Products Regulation.

PCPC represents more than 600 member companies, ranging from large manufacturers and marketers to independent producers, which are involved in the manufacture and distribution of cosmetics, toiletries, fragrances, over-the-counter (OTC) drug products and ingredients in California and throughout the United States. PCPC members therefore have a strong interest in the scope and applicability of this regulation.

We thank CARB staff for the time and attention it has given to PCPC and its member companies during the regulatory development process. The dialogue has helped us assess the overall impact of the regulatory proposals on our products and to work toward optimum solutions that meet the goals of CARB, the State of California, and the companies which provide personal care products.

INTRODUCTION

Since the inception of California's Consumer Product Regulations in 1989, PCPC and its members have continuously provided thoughtful feedback on CARB's rulemaking proposals to limit VOC emissions. We

[1]Based in Washington, D.C., the Council is the leading national trade association representing the global cosmetic and personal care products industry. Founded in 1894, the Council's more than 600 member companies manufacture, distribute, and supply the vast majority of finished personal care products marketed in the United States. As the makers of a diverse range of products that millions of consumers rely on every day, from sunscreens, toothpaste, and shampoo to moisturizer, lipstick, and fragrance, member companies are global leaders committed to product safety, quality, and innovation.

have been engaged in the current rulemaking as well, including participation in the five public workshops held by CARB on April 12, 2019, November 7, 2019, April 14, 2020, July 28, 2020, and November 10, 2020. We have also had several meetings with CARB staff generally, and many PCPC member companies have engaged directly with CARB on matters of company specific importance.

PCPC recently submitted formal comments[2] on August 28, 2020 and November 24, 2020 as part of this dialogue; these comments are still relevant and applicable to the current discussion and are thus incorporated by reference. Our current comments are primarily focused on personal care topics discussed in the ISOR dated February 2, 2021.

Our comments are submitted as an effort to achieve a practical and effective regulatory framework that promotes sustainable innovation while making meaningful improvements to the protection of human health and the environment. Any significant change in regulations represents equally significant challenges to the formulating companies, as each new product must be evaluated for product integrity, stability, safety, financial viability, and ultimately consumer acceptability. PCPC member companies also must ensure that any new regulation does not lead to the substitution of potentially more toxic or environmentally damaging ingredients.

PCPC thus respectfully submits the following comments on sections of the ISOR which impact the personal care categories.

1. General Comments

PCPC appreciates the fact that CARB's proposed VOC standards for Hair Finishing Spray, No Rinse Shampoo (to be known as Dry Shampoo), Hair Shine, Temporary Hair Color, and Personal Fragrance Products (PFPs) remain unchanged from the July 28, 2020 proposal. Companies are already working to modify current product formulations necessary to meet these proposed VOC levels – especially for the January 1, 2023 implementation date – in anticipation of CARB Board approval.

2. Product Category Definitions

PCPC supports changing the name of "No-Rinse Shampoo" to "Dry Shampoo."

As to the proposed definition, it is important to remember that the purpose of Dry Shampoo is to remove oil from the hair, which results in making the hair fuller in body and volume. As such, CARB should amend the definition slightly to include the word "volumizing," thereby explicitly allowing the use of this claim for dry shampoos, especially given this is a claim that is traditionally made on 'wet' shampoos as well.

[2] See Letters from Thomas F. Myers to Joe Calavita, titled "Comments on California ARB's Proposed Amendments to the Consumer Products Regulation", August 28, 2020; and "Comments on California ARB's Proposed Amendments to the Consumer Products Regulation", November 24, 2020.

3. Proposed Technology Assessment

In its November 10, 2020 webinar, CARB presented an overview of the "Proposed Technology Assessment of the 2031 Standard." We greatly appreciate the inclusion of a Technical Assessment in the proposal as an important and necessary step to determining the feasibility of the 2031 proposed VOC limit.

Importantly, many companies are presently uncertain as to how to reduce VOC levels for much of the PFP category from 70% to 50% VOC:

a. While CARB states in the ISOR that 20% of product formulations from its 2015 survey met the proposed 50% VOC limit on "Personal Fragrance Products with less than 10% fragrance," we are unaware of any successfully marketed formulations which also meet the criteria of consumer acceptability and brand quality.

b. PCPC reiterates and urges CARB to explicitly state in its "resolutions" that, if the 50% VOC level for Personal Fragrance Products proves to be technically infeasible by the January 1, 2031 deadline, CARB will increase the proposed VOC limit to a higher level commensurate with the results of the technology assessment.

c. The technical assessment will require manufacturers to conduct a survey of potentially impacted products for the year 2025. In order to conduct a complete survey of products sold as late as December 31, 2025, companies will need additional time. As previously requested, PCPC members are seeking an additional 3 months to conduct the survey, with a new deadline of June 30, 2026, to deliver the required information.

Once this proposed regulation is promulgated, PCPC and its members commit to engaging with CARB to develop and execute the survey and technology assessments required.

4. Fine Fragrance Products

The proposed VOC limits may not be technologically nor commercially feasible across all subcategories of non-aerosol Personal Fragrance Products. Indeed, significant reformulation of existing products will be needed for some subcategories to reach even the 70% VOC standard; and much work will be required to create some entirely new fine fragrances which meet a 70% standard.

For the vast majority of existing fine fragrance products with < 7% fragrance, (perfumes, parfums, eau de parfum, eau de toilette, cologne), compliance with 70 % will be difficult without compromising the overall scent of the product. Indeed, as CARB points out, fine fragrances are "the most simply formulated products" comprised of fragrance (a mixture of hundreds of ingredients), ethanol, water and possibly a very small amount of ingredients like colorants or antioxidants. As a result, the smallest change in the fragrance mixture requires significant amounts of work just to maintain the same scent, as expected by consumers. Any change to the equilibrium ethanol/ water, which is very specific to any given fragrance

mixture, strongly modifies the olfactory character of the product, which is its highly recognizable identity. Consumers will likely find any change to the scent of the product to be unacceptable. Generations of consumers expect over the time the exact same scent and sensation from their iconic fine fragrance brands, many of them on the market since several decades.

When it comes to a 50% standard, CARB's data show that regardless of fragrance content, only a very small percentage of today's market (less than 5%) currently meets the limit, and PCPC expects this percentage to be zero or close to nil for fine fragrances. If reformulation of most existing fine fragrances, which have been on the market for many years, is deemed difficult at 70%, it is even more true for 50%.

Many avenues have been tried in the past to replace either partially or entirely ethanol without success; nevertheless, PCPC members are committed to working collaboratively with fragrance suppliers to assess the feasibility of new approaches and simultaneously with CARB on the technology assessment.

There are two technical considerations in the text of the amendments that are worth making for both aerosols and non-aerosols PFP's:

- 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 . . . ."
        - We suggest revising this provision slightly to require data regarding the VOC content of the "fragrance concentrate" or the "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."
        - We suggest removing "consumer acceptance research" and replacing it with "olfactory/odor expert acceptance testing." A fragrance product must undergo an olfactory/odor expert acceptance test before deemed to be acceptable for presentation to consumers. (This is part of the technical steps that a product must go through). Otherwise, every small tweak to a fragrance will require consumer acceptance research, which is very costly and time consuming.

5. Sunset of 2% Fragrance Exemption by 2031

In previous comments, PCPC requested that CARB withdraw the proposal to "sunset" the 2% fragrance exemption for Article 2 products, in part because the VOC savings are minute and could require significant reformulation of products which currently use the exemption. It has also been pointed out that the elimination of the fragrance exemption amounts to a *de facto* reduction of the maximum VOC level in most Article 2 product categories.

In the ISOR, CARB staff reaffirmed its intent to eliminate the 2% Fragrance Exemption, stating that "this proposal would promote transparency and equity, clarity, and help address growing public health concerns associated with exposure to fragrance ingredients".

PCPC and its members continue to object to the implication that fragrances cause public health concerns, as the safety of all cosmetic products must be substantiated before marketing, *per* U.S. FDA regulations. PCPC and its members continue to work with fragrance manufacturers and safety professionals to assure that the products, including their fragrances, are safe for consumers to use as intended. It is also important to note that by 2022 PCPC members have to comply with California Senate Bill 312, the Cosmetic Fragrance and Flavor Ingredient Right to Know Act of 2020, which requires the disclosure of fragrances, flavors and allergens in cosmetic products, thereby ensuring consumers are fully informed.

Previously CARB expressed a willingness to consider retaining a portion of the 2% exemption for certain low VOC categories such as hair mousse, in which a significant percentage (over 60% as per Figure B-3 in Appendix B of the ISOR) of fragranced products currently make use of the fragrance exemption. We request that CARB once again consider the retention of the exemption for personal care products with low VOC maxima, and include such provision in the final regulation.

If the elimination of the fragrance exemption is approved, CARB must provide guidance on how manufacturers are to comply (assuming that Section 94510(c)(2) is adopted as drafted). If product manufacturers are to obtain the VOC level, by percentage, of each fragrance used in order to calculate the total VOC of a particular product, there will need to be a modification in the commercial agreements between the product manufacturer and fragrance manufacturer to ensure continued compliance.

PCPC appreciates that CARB has proposed a 2031 implementation date, giving industry time to reformulate products as necessary and to conclude discussions with suppliers.

6. Hypothetical Formulations and Resulting Recurring Cost Estimates

In Appendix D of the ISOR, CARB provides general formulations which meet current and proposed VOC maxima. PCPC cannot comment on the cost estimates provided, since such data are business confidential. Member companies have been asked to provide comments directly to CARB, so that any business information can be maintained as confidential.

PCPC can, however, comment on the ways that the new VOC regulations can be met. In general, companies will need to devote considerable time to reformulation, consumer testing, stability testing, and microbiology to ensure that the necessary changes result in a consumer acceptable product.

A. Hair Finishing Spray

i. Whether the current 55% VOC formulations are made with a an "exempt propellant" (e.g., HFC-152a) or Dimethyl Ether (DME), the 50% "compliant" formulations provided show that the 5% reduction in VOC is achieved predominantly by reducing solvents (ethanol and/or DME) and increasing water by a commensurate amount.

- Decreasing the solvent and increasing water will result in longer drying times for the product and reduce consumer acceptability. At some point, the solubility of material which provides the hold will also become an issue, since solvents are needed to adequately disperse this ingredient.

ii. Nevertheless, PCPC member companies are committed to achieving the 50% target. We appreciate that CARB recognizes the technical difficulty of formulating a consumer acceptable hair spray below a 50% VOC limit and, therefore, has decided to not pursue lower VOC standards for this category.

B. Personal Fragrance Product (Aerosol)

i. Industry is currently reformulating its products to meet the 70% VOC limit by 1/1/2023, in anticipation of this being in the final rule.

ii. To reformulate from 70% VOC to 50% VOC in 2031, CARB offers an example of a proposed formulation that eliminates the hydrocarbon propellant (30% to 0%), decreases the solvent ethanol from 40% to 30%, significantly increases the "Exempt Propellant" (i.e., HFC -152a) from 13% to 30%, adds 20% DME, and increases the water level from 13% to 16%.

- Consumer acceptability will be the primary issue for this type of product, since drying times and cost will likely be significantly impacted by these hypothetical changes.

iii. The technical assessment will provide CARB with much needed information about the potential for the 50% VOC formulations to be adopted by 1/1/2031.

C. Dry Shampoo

i. This category will require significant reformulation efforts to move to the proposed 55% VOC standard for 2023.

ii. Currently a majority of aerosol dry shampoos have VOC levels of approximately 90%, primarily due to the use of hydrocarbon propellants.

- For a 55% VOC level, CARB's assessment (Appendix D, Tables D-10 and D-11) reduces the hydrocarbon propellant from 60% to 25%, while increasing the "Exempt Propellant", normally HFC-152a, from 0% to 29%.

- There may be necessary trade-offs: ozone forming potential may be reduced while global warming potential may increase if companies switch to HFC-152A.

iii. While PCPC members are committed to meeting the 2023 timetable, CARB and PCPC expect that there will be at least a short-term increase in global warming potential for these formulations.

7. Nonrecurring Cost Estimates

Appendix E in the ISOR provides CARB's estimates of the costs associated with complying with the new VOC mandates. As these costs are company-specific, confidential, and subject to significant differences among manufacturers, PCPC has asked member companies to individually comment on the estimates provided. Companies have been asked to designate, as appropriate, any confidential business information.

8. Use of Maximum Incremental Reactivity (MIR) to Regulate Ozone Forming Potential of Personal Care Products

PCPC continues to support the continued evaluation of using MIR as a method to measure the ozone formation potential of a product. Use of MIR, instead of using a mass-based VOC approach, could significantly increase the ability of companies to innovate more environmentally acceptable products while helping the state of California meets its air quality requirements.

PCPC thus supports initiatives to modify the current Innovative Product Exemption (IPE) regulation to allow the use of MIR as a compliance option in place of the current VOC requirements. By focusing on the ability of a formulation to create ground level ozone, instead of strictly on VOC levels, industry can potentially lower both the ozone forming potential as well as greenhouse gas emissions for several types of formulations.

9. Innovative Product Exemption (IPE) Proposal for Aerosol Products Using Compressed Gas

PCPC strongly supports CARB's proposal to increase regulatory flexibility for aerosol products that use compressed gas (air, nitrogen, etc.) via the use of the IPE.

The current proposal allows companies to replace the propellant HFC-152a, a greenhouse gas, with propellants such as air or nitrogen, without increasing the propensity of the product to form ground level ozone (Ozone Forming Potential, or OFP). At least 50% by volume of propellant ingredients must be one of the named compressed gases to qualify for the exemption: PCPC asks that CARB provide further clarification of how the 50% limitation is to be measured.

The potential use of MIR to assess the ability of the product to form ozone is a key feature of this proposal. As PCPC has commented previously, using an MIR approach for selected categories could provide significant, innovative reductions in ozone forming potential as well as greenhouse gas generation.

As outlined in our previous comments, there are a few issues with the currently proposed amendment which need to be modified to allow companies to make full use of the exemption process and to deliver even greater reductions in the use of HFC-152a. While the technical issues presented still need to be addressed, PCPC is still concerned that the bureaucratic nature of the current IPE process will not lead to widespread use of this proposal. CARB needs to address (a) the significant administrative burden required of companies wishing the use the new IPE process and (b) the length of time it takes currently for CARB to review and approve an IPE proposal.

As CARB stated in the Executive Summary of the ISOR, the "proposed Innovative Product Exemption provisions to encourage compressed gas propellant instead of HFC-152a in these three categories could ultimately result in GHG reductions that far exceed this potential GHG increase" (due to increased use of HFC for aerosol products). However, if obtaining an IPE is so cumbersome that companies are reluctant to even apply for it, CARB will not see the reduction in benefits that is foresees.

PCPC and its members are committed to working with CARB to determine the optimum requirements and process for obtaining an IPE which will give consumers an aerosol product which has significantly lower greenhouse gas potential yet still meets the OFP requirements of the 2023 and 2031 regulations.

10. Proposed Toxics Prohibition

In the ISOR, CARB has proposed that the use of Parachlorobenzotrifluoride, Methylene Chloride, Perchloroethylene, and Trichloroethylene be prohibited in Hair Care and Personal Fragrance Products. As PCPC is not aware of any use of these materials in the named products, there is no objection to this prohibition.

Conclusion

PCPC welcomes the opportunity to continue working with CARB staff to resolve any of the issues noted. CARB and its staff have devoted considerable time and effort to PCPC and its members, and we look forward to successfully concluding these discussions to promulgate a workable regulatory framework for industry.

Respectfully submitted,

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