



2020 Dow Center
Midland, MI, 48674

November 16, 2016

Dr. Meredith Williams
California Department of Toxic Substances Control
Deputy Director
1001 I Street, 12th Floor
Sacramento, CA 95814
via [California Safer Products Website \(CalSAFER\)](#) and e-mail

Re: Comments and suggestions on the Safer Consumer Products - Draft Stage 1 Alternatives Analysis Guide (November 16, 2015)

Dear Dr. Williams:

The Dow Chemical Company (Dow) appreciates the opportunity to provide comments on the California Department of Toxic Substances Control (DTSC or Department) Draft Stage 1 Alternatives Analysis (AA) Guide

The Dow Chemical Company is driving innovations that extract value from the intersection of chemical, physical and biological sciences to help address many of the world's most challenging problems such as the need for clean water, clean energy generation and conservation, and increasing agricultural productivity. Dow's integrated, market-driven, industry-leading portfolio of specialty chemical, advanced materials, agrosiences and plastics businesses delivers a broad range of technology-based products and solutions to customers in approximately 180 countries and in high-growth sectors such as packaging, electronics, water, coatings and agriculture.

In California, Dow's five manufacturing facilities provide high-paying, advanced manufacturing jobs for over 700 employees and contractors in technologies ranging from photovoltaics and clean water to coatings and agrosiences. As a world leader in using science and technology to shape chemicals management improvements, Dow is well-positioned to use green chemistry to address the needs and challenges of a more demanding world. Dow has a vested interest in California's Safer Consumer Products regulation and has been actively engaged in the statutory and regulatory process since its inception.





While Dow maintains its commitment to the initial goal of the California Green Chemistry Initiative and appreciates DTSC's willingness to meet with stakeholders and accept input, we remain concerned by the implementation of the program. As noted in our comments on prior components of the program, DTSC should not pre-determine the outcome of activities, either of the identification of Priority Products, or the outcome of an Alternatives Analysis. The purpose of the AA should be to identify alternatives for a priority product, and determine the impacts of those alternatives to identify the best way to perform the required function while minimizing any adverse impacts on human health or the environment. Life cycle thinking should be a component of this analysis. The Stage 1 AA Guide in particular lacks clarity in a number of areas, potentially leading to ambiguity and inconsistency in the regulated community's approach to AAs.

Therefore, we respectfully submit the following suggestions.

As described more comprehensively in the comments below, Dow urges DTSC to improve the Stage 1 Alternatives Analysis Guide as follows:

- **Product Function and Performance should be included in a Phase 1 Alternatives Analysis:** The Safer Consumer Products Regulation targets consumer products, and as such, function and performance are critical elements of the market acceptance of products. DTSC should elevate these criteria to be included in the first stages of an Alternatives Assessment.
- **An AA should be based on credible, science-based information**
- **DTSC should clarify how Factors may be weighted in the Department's assessment and/or provide a decision tree to guide Responsible Entities to relevant Factors**
- **The Guide should include more suggestions on how Regulated Entities can comply with AA Requirements in a cost-effective manner**

We also adopt and support the comments made by the American Chemistry Council¹ (ACC) specific to the draft Stage 1 Alternatives Analysis Guide.

¹ [Comments and suggestions on the DTSC Safer Consumer Products Draft Stage 1 Alternatives Analysis Guide, American Chemistry Council, November 16, 2015]



A. Product Function and Performance should be included in a Phase 1 Alternatives Analysis.

DTSC has not placed appropriate and sufficient emphasis on product function and performance in the draft Stage 1 Guide. The statute itself mandates consideration of product function or performance as the first of thirteen discrete listed criteria in life cycle assessment tools. Section 69505.5(a)(1) of the Regulations directs Responsible Entities to “identify functional, performance, and legal requirements of the Priority Product that must also be met by alternatives under consideration.” Function and performance are the criteria by which all alternatives must be judged.

DTSC has noted in the Draft guide and in Department webinars that responsible entities should “consider completely different alternatives,” which may not meet these performance criteria. DTSC is effectively arguing for a broad definition of performance and function so that all reasonable alternatives may be considered. However, product performance and function is an important precondition to the success of an AA² and should not be postponed until Stage 2. It is thus important that the Guide clarify that function and performance must be considered in the First Stage AA, and if it is readily apparent that a function or performance trade-off will be unacceptable, the Responsible Entity may eliminate the alternative from the analysis, thus simplifying the process.

Considering that this regulation is focused on consumer products, where market acceptance plays a significant role, it is conceivable that certain alternatives will be unacceptable from a functional or performance standpoint. This may be particularly true where (1) the performance is essential to a critical safety or security function of the consumer product, such as shatter resistance of safety glasses; or where (2) it is apparent that an alternative will not be acceptable at the end of the process due to function and performance limitations, thus eliminating that alternative and thereby streamlining the AA process; or where (3) it is apparent that performance or function will be substantially diminished by moving to an alternative. In such cases, the process benefits greatly from early recognition and acknowledgement that no suitable alternatives are currently available, enabling the agency to move more quickly to pursuing options such as additional labeling, access controls, exposure limitations, or green chemistry grants.

² See, e.g., NAS, A Framework to Guide Selection of Chemical Alternatives at (2014), “It is understood that the safer alternatives would also meet other requirements, such as cost and performance.” (emphasis added).

B. An AA should be based on credible, science-based information

Dow supports the ACC's comments regarding requests for new information. Criteria for the reliability of information should be laid out in the guidance. Both new and existing information should be reliable and scientifically credible. The timeframe established in the AA guidance is short, so it should place restrictions on the quality of information that may be considered. Information that is assembled hastily may not have been published, peer reviewed, audited, or subjected to other scrutiny for quality and reliability. The AA guidance should establish quality guidelines. Also, it is unclear how "new information" requested by DTSC could be sufficiently vetted and peer reviewed to meet requirements for data reliability consistent with the regulatory timeframe for performing an AA.

C. DTSC should clarify how Factors may be weighted in the Department's assessment and/or provide a decision tree to guide Responsible Entities to relevant Factors that rely on credible, science based information.

DTSC's Alternatives Analysis requirements are onerous with multiple factors and associated exposure pathways and life cycle stages, and with considerable ambiguity in how the Department will weight various factors. Both Section 69505.5 of the Regulations and the Stage 1 Guide state that only the factors that are "relevant" for the comparison of the priority product and the alternatives need be considered. But in other parts of both the regulations and the guide, it is less clear that only "relevant" factors need to be addressed in the AA. For example:

"Although the AA framework specifies the particular elements that the responsible entity ***must include*** in the analysis and reports ... while the AA provisions do not limit, restrict, or require the responsible entity to undertake the AA steps in the sequence presented in the regulations, the AA Reports ***must include*** all of the specified, required elements.³ (emphasis added)

The Phase 1 Guide should clarify for Responsible Entities how the DTSC would determine, and therefore how the Responsible Entity should determine, which factors are relevant for inclusion.

While flexibility in conducting an AA is desirable, consistency of approach from Priority Product to Priority Product is highly desirable. For each Priority Product, it becomes

³ DTSC (2015). Draft Stage 1 Alternatives Analysis Guide. p. 15



imperative that a consistent approach be taken; it is clearly counterproductive to have multiple Responsible Entities conduct multiple AAs and reach different conclusions.

Importantly, DTSC should provide multiple examples of AAs that would receive DTSC approval, as required by Section 69505.(a) and (b): “Before finalizing the initial Priority Products list, the Department shall ... also post on its website examples of AAs that are available in the public domain at no cost.” Each of the examples should be evaluated by the DTSC based on their evaluation criteria so as to provide practical guidance on what is considered to meet, or not meet, the expectations of the agency.

We urge DTSC to better explain its expectations for the selection of factors and weighting thereof in the AAs, and suggest that the DTSC include a detailed decision tree to better allow Responsible Entities to focus on factors that are relevant to the Priority Product and that rely on science based, credible information without implying that “all” data and information must be part of an AA. This could be accomplished by:

- Adding a detailed decision tree to both the Stage 1 and Stage 2 Guides
- Suggesting “weightings” for the various factors
- Training, for both DTSC staff who will be responsible for reviewing AAs as well as workshops for Responsible Entities, especially those entities whose products have been selected as the first three Priority Products.

The development of any decision tree should be at a sufficiently high level such that it can be modified for the specific products under consideration and done in cooperation with industry. An example decision tree is available within the International Council of Chemical Associations (ICCA) Guidance on Chemical Risk Assessment⁴.

D. The Guide should include more suggestions on how Regulated Entities can comply with AA Requirements in a cost-effective manner.

To conduct an AA, the Guide lists the need for expertise in chemistry, toxicology, environmental fate and transport, environmental and occupational health and safety, process engineering, life cycle thinking, project life cycle management, environmental economics, financial analysis, public health, green chemistry, and marketing. Yet the Guide includes no discussion about how Responsible Entities can obtain this expertise in

⁴ See, e.g., International Council of Chemical Associations. (2011). *Global Product Strategy ICCA Guidance on Chemical Risk Assessment*. Figure 2. Page 28. available at: http://www.icca-chem.org/ICCADocs/ICCA_GPS%20July2011_LowResWEB.pdf



a cost-effective manner within the aggressive timelines included in the regulations. We suggest that the Stage 1 Guide include a discrete section on how Responsible Entities can approach the Alternatives Analysis requirements as cost-effectively as possible.

As an example, DTSC should encourage Responsible Entities to seek the use of consortia, often organized through trade associations, as a more efficient and cost-effective mechanism to share costs. DTSC should prepare and include additional cost-savings techniques for Responsible Entities.

The list of factors and endpoints in Appendix 3-1 reveals the complexity of the California AA process. In our view, merely listing all the potential health/environmental endpoints is not particularly helpful guidance. We suggest that a more helpful approach for the regulated community would be for DTSC to develop a decision tree applying the AA factors. Years of experience teaches that for toxicity endpoints in particular, tiered testing approaches are more rational, cost-effective, and less animal resource intensive; DTSC should seek to offer tiered approaches here.

As noted in our October 2014 comments, Dow remains interested in working with DTSC to further optimize the implementation of the regulations for Safer Consumer Products. We look forward to working with DTSC to ensure the effective implementation of this regulation.

Regards,

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