March 31, 2010

Senator Joe Simitian
State Capitol, Room 2080
Sacramento, CA 95814

Dear Senator Simitian,

We are pleased to honor your request for a review of ingredient reporting as represented on the websites associated with the recently launched Consumer Product Ingredient Communication Initiative, sponsored by the Soap and Detergent Association, the Consumer Specialty Products Association, and the Canadian Consumer Specialty Products Association. One of the stated goals of this voluntary initiative is “ensuring the safety of chemicals and working towards greater collaboration with respect to sharing data and information to ultimately protect our citizens and our environment” (SDA 2008).

Following an introduction to the key purposes of ingredient disclosure as we see them, we will offer two recommendations: (1) ingredient information should be sufficient to precisely identify all chemicals found within a product; and (2) reporting should be consistent and readily accessible.

Introduction

The disclosure of consumer product ingredients serves three purposes:

1. It enables consumers to make value comparisons based on knowledge about material contents; the Federal Trade Commission’s Fair Packaging and Labeling Act begins with the statement that “Informed consumers are essential to the fair and efficient functioning of a free market economy” (FTC 1967).

2. It serves to prevent harm by protecting users from dangerous products (FDA 1991). The dangers posed by most products are the risk of human exposure to harmful chemical ingredients and mixtures, and the risk of ecological damage due to their use or release.

3. It facilitates informed decision-making throughout the supply chain, from chemical manufacture to product use.

Ingredient disclosure is vital for allowing the public, workers, manufacturers, formulators, and retailers to adequately assess the risks posed by products. Health agencies and public organizations also participate in protecting consumer safety, and their activities likewise depend upon knowledge of chemical ingredients. Such knowledge facilitates proper diagnosis, treatment, and prevention of chemical exposure-related diseases (Wilson 2007, Flyvholm 2005). Should emerging science give rise to
concern over a specific chemical ingredient, actions to prevent health and environmental harm depend on accurate knowledge of product ingredients. Previous experience has shown that voluntary initiatives, on their own, are not a sufficient vehicle for generating this knowledge and meeting the public’s need for standardized, complete, and clear information (Wilson 2006).

The need to make prudent decisions around product safety, and the necessity of detailed information, does not rest only with consumers; the same considerations apply to the entire chemical-to-product supply chain. By creating transparency, ingredient disclosure improves communication in the supply chain, allowing product formulators, their suppliers and retailers to move on the same track, using the same information, toward a market for safer and more sustainable chemicals and products.

**Recommendation 1: Ingredient information should be sufficient to precisely identify all chemicals in a product.**

There are varying degrees of precision possible in the reporting of chemical ingredients, and a wide range is reflected in the current practices of the companies participating in this voluntary initiative. We believe that the information reported should be sufficiently complete to meet the aforementioned objectives of ingredient disclosure, especially risk assessment and harm prevention. What follows are proposed reporting guidelines that will be needed to build this degree of information into the market.

For the purpose of this document, we use the following definitions:

**Chemical:** A substance with a specific and well-defined structure, which can be designated using a systematic chemical name.

**Common/Trade Name:** These non-systematic names are used to refer to single chemicals or classes of chemicals, based on established familiarity, industrial use or marketing. In some cases, many different chemicals or classes are identified using the same trade name, in which case there is usually an enumeration system to differentiate between the chemicals (e.g., polyquaternium 1 – 47).

**Chemical Class:** Chemicals closely related by structure. For the purposes of product ingredients, we intend this to encompass only minor variations in structure; for example, oligomer chain length, alkyl chain branching, or positional isomerism. Chemicals within a class have similar physical properties and functional characteristics and usually have similar biological activity and environmental fate.

**Function Descriptor:** These general terms are used to describe the function of a chemical or mixture of chemicals and do not convey information about the identity of a chemical. Examples include dye, fragrance, preservative, and surfactant.

**Proposed Guidelines: A Standard for Chemical Reporting**

All ingredients in products intended for consumer or workplace use should be identified with sufficient precision to enable a user to locate any publicly available information about that chemical.
i. Systematic chemical names are ideal. Common or trade names should only be used if sufficient information is readily available for the public to determine what exact single chemical, chemical mixture, or chemical class corresponds to the common/trade name.

ii. Chemical class names may be used in some cases where the identity of the specific chemical(s) is subject to a legitimate confidential business information claim, or if the substance is produced and supplied as a mixture of closely related compounds (see below for examples).

iii. Function descriptors, as defined above and in the industry reporting document (SDA 2008), are insufficient.

iv. Ingredient lists should contain all the chemicals in a product. If confidential business information claims are permitted, a standardized procedure should be developed to publicly disclose the presence of a “confidential ingredient” in a product.

Evaluation of Current Reporting Practices

We evaluated the disclosure of ingredients on company websites against the standards proposed above. Our proposal represents a significant departure from the guidelines presented by the Soap and Detergent Association (SDA), which explicitly endorsed the use of function descriptors for fragrances, dyes, and preservatives. The purpose of ingredient disclosure is to provide information, without assumptions of function or hazard. As such, we expect all chemicals found within a product to meet the same standard of disclosure. Included below is a summary of our findings organized by function descriptor. Our comments have been organized in this fashion in order to reflect the current practices found in the voluntary Ingredient Communication Initiative.

Surfactants, cleaning agents and solvents

The participating product formulators, on balance, provided adequate disclosure of surfactant and solvent ingredients; however, some formulators used incomplete or vague names. Chemical class names were used frequently for surfactants; “C10-12 Branched Alcohols Ethoxylated 5-7EO” is an example of a name that is sufficient to characterize the ingredient.

The following examples illustrate the need for uniform reporting standards. One company used the identifier “amine oxide,” which describes an arbitrary number of very different compounds. In contrast, another company sufficiently identified the amine oxide ingredient in their formulation as “cetyl dimethylamine oxide,” which unambiguously identifies one chemical. We also found the ingredient “polyquaternium” listed, which is not sufficiently specific because it is an umbrella term encompassing a diverse set of chemicals. That listing would have been satisfactory had the appropriate numerical designation been included: e.g., “polyquaternium-11” is a specific chemical formulation whose hazard properties can be evaluated.

Dyes

Some—but not all—product formulators have already taken the approach of identifying dyes by their trade names, and we recommend this practice. Dyes often have very complex chemical structures and cumbersome chemical names. Trade names, if they fulfill the criteria given above, can be a useful way to identify dyes. The Colour Index (C.I.) is a reference database of commercial colorants, jointly maintained by American and international professional societies. The Colour Index allows dyes to be unambiguously
identified by standard generic names or index numbers (Society of Dyers and Colourists 2009). The potential limitation to the use of C.I. identifiers for ingredients is that the proprietary nature of the database itself may limit public access to information necessary to make such identifiers meaningful.

The need for disclosure of dye ingredients is highlighted by a history of harm to human health attributable to dye toxicity. The carcinogenic properties of aromatic amines, and of the dyes made from them, have been known since the late 19th century (Morgan et al. 1994). In particular, the large family of benzidine-based dyes is authoritatively classified as known human carcinogens (IARC 1987, IARC 2009, NTP 2005). Today in California, at least 25 different dye-related aromatic amines are included in the Proposition 65 list of chemicals known to the state to cause cancer or reproductive toxicity; several specific dyes and three broad classes of dyes are also designated as such (OEHHA 2010). Despite the decline of local production, benzidine-based dyes continue to be manufactured in developing countries and imported into the United States (Dapson 2009).

The current practice of non-disclosure of dye ingredients in some products does not imply the use of these particular toxic substances, but it prevents reliable assurance that they are not used—especially if the ingredient was purchased from a supplier who also did not disclose its exact identity. It is important to note that more specific ingredient disclosure requirements will have the additional effect of facilitating supply-chain communication between formulators and ingredient suppliers.

**Fragrances**

*None of the current ingredient disclosure websites provided sufficient information regarding the fragrances used in their formulations.* Given the potential for allergic reactions, chemical sensitization, and skin disorders in response to exposure to certain fragrance chemicals (DeGroot and Frosch 1997, Schnuch et al. 2005), more detailed information regarding the chemicals used as fragrances should be provided on the ingredient lists and should be required as part of ingredient disclosure.

The medical literature supports the need for more detailed disclosure of fragrances and fragrance formulations. The human olfactory system is highly complex and can distinguish thousands of compounds with concentration thresholds that vary over seven orders of magnitude. A diverse and continually changing set of chemical compounds has therefore found application in fragrance formulations. By one estimate, there are roughly 4000 raw chemical materials, about half of which are synthetic, that are commonly used to create fragrances for consumer products (Turin 2005). These compounds exhibit a diverse array of chemical structures and secondary biological activity. While some fragrance compounds exhibit beneficial interactions, including antioxidant, antimicrobial, and analgesic properties (Koroch et al. 2007), others are known to produce allergic reactions, chemical sensitization, and skin disorders (DeGroot and Frosch 1997). DeGroot and Frosch estimate that 1% of the population exhibit allergies to some type of fragrance. *Given the number of people potentially affected by fragrances, disclosure of these chemicals is necessary to enable people to make safer choices.*

In addition to respiratory and dermal sensitization, fragrance chemicals and formulations can also present risks of wider environmental and public health effects. For example, musk xylene has been identified by the European Chemicals Agency as a “substance of very high concern” (ECHA 2008). This substance, a synthetic fragrance chemical bearing no structural resemblance to naturally occurring musks, has been identified by the EU as both very persistent (vP) and very bioaccumulative (vB).
Among companies participating in the Ingredient Communication Initiative, we found none that give chemically relevant information concerning the fragrance formulations used in their products. A few products contain natural essential oils, which are mentioned explicitly in their ingredient list, but even these products contain other ambiguous ingredient designations, such as “preservative” or “fragrance.” Since known chemicals of concern may be contained within these products under ambiguous labels, chemicals that are used as fragrances must be precisely identified.

Preservatives

Many cleaning products contain preservatives to increase the product’s useful life. A 2005 European Union survey of registered products found that—like fragrances—many of these chemicals can cause sensitization, which can lead to skin allergies and contact dermatitis (Flyholm 2005). Moreover, formaldehyde has been reported to be used as a preservative in 261 cleaning products for sale in European markets (ibid). Formaldehyde has been identified as a human carcinogen by the International Agency for Research on Cancer and by the State of California (IARC 2006, OEHHA 2010). The potential risks posed by preservatives necessitate full disclosure on the part of producers.

Recommendation 2: Reporting should be consistent and readily accessible.

Industry participants in the Consumer Product Ingredient Communication Initiative have made provisions for ingredient reporting to the public either on product labels, websites, toll-free numbers, or other non-electronic means. We have inspected the websites of numerous manufacturers and found a range of reporting methods, including keyword-searchable product databases and ingredient lists organized by product line. The best websites gave ready access to relevant information, while the most problematic websites required the user to navigate through a long series of links, effectively obfuscating the information. We are generally concerned with the inconsistency among manufacturers’ reporting formats, which hinders product comparison.

Most problematic, however, were what we found to be misleading elements in some of the reporting formats. Some manufacturers provided two types of ingredient lists for the same product: a more detailed, technical version, and a simplified, consumer-friendly version. The content of these lists differed significantly, with the simplified version being comparatively vague or incomplete, but giving the appearance of being comprehensive. Some websites offered unsubstantiated claims of ingredient safety, either made outright, or implied—for example, listing certain ingredients separately as “hazardous ingredients,” implying that none of the other ingredients are hazardous. These differences in information quality and accessibility illustrate one of the limitations of voluntary initiatives.

Achieving the goals of ingredient disclosure—ensuring that consumers have ready access to unambiguous information on product ingredients—will require that producers report standardized, complete, and clear information to all users.

Conclusions and Summary Recommendations

Our assessment of product ingredient disclosure by the companies in the Ingredient Communication Initiative has led us to three key conclusions:
1. The methods and formats used in producers’ web-based ingredient reporting vary widely in clarity and effectiveness.

2. The disclosure of surfactants and solvents is, with some exceptions, generally adequate, and we have given examples of insufficiencies above.

3. For dyes, fragrances, and preservatives, ingredient reporting is insufficient to evaluate the presence of hazardous chemicals in the products.

We therefore make the following recommendations to improve current practices.

1. All ingredients in products intended for consumer or workplace use should be identified with sufficient precision to enable a user to locate any publicly available information about that chemical. We have proposed guidelines above for ingredient identification. In brief:

   i. We strongly recommend the use of systematic chemical names or unambiguous common/trade names to identify ingredients.

   ii. We recommend the use of chemical class names (as specifically defined above) in cases where the identity of a chemical is subject to a legitimate confidential business information claim, or if the substance is produced and supplied as a mixture of closely related compounds.

   iii. We strongly discourage the use of function descriptors such as “dye,” “fragrance,” or “preservative” because these identifiers do not provide chemical information. Furthermore, these ambiguous categories describe some chemicals known to be hazardous (as described above).

   iv. Ingredient lists should contain all the chemicals in a product. If confidential business information claims are permitted, a standardized procedure should be developed to publicly disclose the presence of a “confidential ingredient” in a product.

2. The methods and formats used in producers’ web-based ingredient reporting should be standardized and improved to ensure clarity, completeness, and consistency of information.

Sincerely,

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