Fragrance and Transparency

Outlining stakeholder positions regarding intellectual property protections

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Transparency was the unexpected centerpiece of Sustainable Fragrances 2011 (*www.sustainablefragrances.com*), held last June in Washington, DC. During the preconference seminar, Paul Anastas of the US Environmental Protection Agency, and father of green chemistry, said "disclosure is coming." It is not coming because of any pending legislation, but rather because of a desire from consumers and some consumer goods companies to lift the veil of secrecy from fragrance ingredients. Anastas is not a perfume industry insider, but rather a highly regarded scientist with a passion for the environment, and his comment represents a deep undercurrent pushing for meaningful ingredient disclosure. Yet not all stakeholders—fragrance manufacturers and consumer products companies in particular—are on the same page.

Cosmetics have been labeled for 40 years and the world hasn't come to an end. Is there something so fundamentally unique about a fragrance in a shampoo that puts it into a different dimension than a L'Oréal anti-aging cream? Many say yes. (**See Page 26**.) Two common arguments against listing fragrance materials are intellectual property (IP) concerns and the length of most fragrance formulas. The IP issue, some argue, is essentially meaningless, since fragrance companies have been efficiently copying each other's formulas since the GC/MS became omnipresent in the 1970s. Individuals or whole departments devote their time to duplication. The argument continues that consumers, given ingredient disclosure, are not going to make their own fragrances any more than they now make a Dr. Perricone cream using the ingredient label.

The International Fragrance Association (IFRA; *www.ifraorg.org/en-us/Ingredients_2*) has published a list of all fragrance materials used worldwide, and one approach to fragrance disclosure already available is to simply refer to that list. That, one might argue, is equivalent to having an interest in Shakespeare and being pointed to the *Oxford English Dictionary* for further information. This argument continues that the IFRA list provides insufficient help for a consumer having a reaction to a specific product containing a specific fragrance material. The complete list is as far as IFRA can take the matter; further disclosure would require information at the individual product level from the consumer companies.

From a logistics standpoint, the length of formulas is an issue, if placed on packaging, but not if placed on a company website. The cumbersome appearance of many

Examples of Seventh Generation Fragrance Ingredient Disclosure

Natural 4x Laundry Detergent

Essential oils and botanical extracts* in Geranium Blossoms & Vanilla only: (*Prunus amygdalus dulcis* (sweet almond) oil, *Citrus aurantium dulcis* (orange) peel oil, *Citrus limon* (lemon) peel oil, *Pogostemon cablin* (patchouli) oil, cedrol, *Litsea cubeba* fruit oil, *Cananga odorata* flower (ylang ylang) oil, *Citrus aurantium bergamia* (bergamot) fruit oil, citronellol, vanillin, *Coriandrum sativum* (coriander) fruit oil, β-caryophyllene, *Eugenia caryophyllus* (clove) leaf oil, *Pelargonium graveolens* flower (geranium) oil).

*Citral and d-Limonene are components of these essential oils.

Natural Dish Liquid

Essential oils and botanical extracts* for scented varieties only: for Lavender Floral & Mint: (*Citrus aurantifolia* (lime), *Cananga odorata* (ylang ylang), *Lavandula angustifolia* (lavender), *Mentha spicata* (spearmint), *Mentha piperita* (peppermint)) for Lemongrass & Clementine Zest: (*Citrus nobilis* (clementine), *Citrus aurantium bergamia* (bergamot), *Cymbopogon citratus* (lemongrass), *Canarium luzonicum* nonvolatiles (elemi), *Citrus aurantium dulcis* (orange)) for Fresh Citrus & Ginger: (cedrol, *Canarium luzonicum* gum nonvolatiles (elemi oil), *Cinnamomum zeylanicum* bark extract (cinnamon leaf oil), *Citrus aurantifolia* (lime) oil, *Citrus aurantium* amara (bitter orange) oil, *Citrus aurantium bergamia* (bergamot) fruit oil, *Citrus aurantium* dulcis (orange) oil, *Citrus limon* (lemon) peel oil, *Coriandrum sativum* (coriander) fruit oil, *Elettaria cardamomum* (cardamon) seed oil, *Eugenia caryophyllus* (clove) leaf oil, *Myristica fragrans* (nutmeg) kernel oil, *Pelargonium graveolens* (geranium) flower oil, *Zingiber officinale* (ginger) root oil).

*d-Limonene is a component of these essential oils.

Source: *www.seventhgeneration.com/ingredients*

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fragrance ingredients—for instance (3a,4,5,6,7,7a-hexahydro-4,7-methano-1H-inden-6-yl)oxy]-acetaldehyde—is not user friendly, but the cosmetic industry does manage with ingredient names such as undecylamidopropyltrimonium methosulfate. Presentations by the Michelle Radecki of the American Cleaning Institute and D. Douglas Fratz of the Consumer Specialty Products Association grappled with labeling and nomenclature issues. Since the fragrance industry already has a list online, some stakeholders believe it is reasonable to use it for disclosure, even if some of the ingredient names are formidable.

Some companies have tackled the ingredient issue with limited success. Seventh Generation, for example, has listed its fragrance ingredients (*www.seventhgeneration.com/ingredients*), but these are simple blends of essential oils, not the complex (and often long) combination of naturals and synthetics of a typical formula. Some examples are shown in **Examples of Seventh Generation Fragrance Ingredient Disclosure**. Seventh Generation is the most socially conscious and well intentioned company possible, but its fragrances do not reflect the industry norm and thus it does not provide a useful template for a wider application of disclosure.

SC Johnson's "What's Inside" program (*www.whatsinidesc-johnson.com*) will soon include fragrance, according to the company. That has been the message for many months, highlighting the challenges facing a mainstream company in dealing with the major fragrance suppliers. Meanwhile, Clorox's disclosure site (*www.cloroxcsr.com/fragrances/*) states:

> Below, we've listed all the common names of fragrance ingredients we use in our consumer and professional cleaning and laundry products in alphabetical and numerical order. If you're interested in identifying the CAS Registry Numbers (the unique numerical identifiers assigned by the Chemical Abstracts Service to every chemical available in open scientific literature) or scientific names (provided by the International Union of Pure and Applied Chemistry [IUPAC]) of our fragrance ingredients, please download the more extensive PDF file. If you're interested in viewing the list of fragrance ingredients used in consumer goods worldwide, visit the International Fragrance Association's (IFRA) website.

The Clorox approach is the IFRA concept on a smaller scale, and does not represent disclosure linked to specific products. Clorox probably had all the necessary information in house to compile the list posted on its site without cooperation from their suppliers, except for the confidentiality agreement that is routinely signed when the initial disclosure is made.

Amidst these disclosure moves, groups such as the Campaign for Safe Cosmetics are spreading misin-

formation disguised as facts. The Campaign's "Not So Sexy" publication (*http://safecosmetics.org/downloads/NotSoSexy_report_May2010.pdf*) is emblematic of this problem. One section claims, "Laboratory tests commissioned by the Campaign for Safe Cosmetics revealed 38 secret chemicals in 17 name-brand fragrance products, compounds detected in tests but not listed on labels." It is the avoidance of transparency, in this author's opinion, that has made such irresponsible and misleading attacks possible.

Toxicology is a difficult science. The Research Institute for Fragrance Materials' (RIFM; *www.rifm.org*) science, as published in peer review journals, is not intended for the general public, and the Design for the Environment guidelines push that technical difficulty to the extreme. Even if the science was simple, there would still be problems arising from a lack of scientific literacy in the general public. As Jon Miller noted in an editorial, "We should take no pride in a finding that 70 percent of Americans cannot read and understand the science section of the New York Times."[a] There is a major disconnect between the science generated by RIFM and the emotional response the general public elicits every time negative report on the dangers of fragrance appears.

Lack of transparency also opens the door to conspiracy theories concerning fragrance ingredients. Trying to counteract negative messages with facts may not work for a fundamental psychological reason. According to a CNN story, "People can be extremely resistant to unwelcome factual information. They tend to resist or reject information, including scientific evidence that contradicts their pre-existing views. In some cases, corrections even made misperceptions worse—a result called a 'backfire effect.' The defensive response is driven by the threat that contradictory information poses to people's self-concept."[b]

Scientific sites aren't comforting for the industry either. The Society of Toxicology (SOT; *www.toxicology.org/pr/ToxTopics/TT1_Asthma.pdf*) cautions, "In order to prevent asthma attacks, avoidance of triggers is important … use fragrance free products." The consumer looking for information on fragrance safety is not likely to go to IFRA for the authoritative answer when so much unqualified noise litters the Internet.

The industry needs a response at a seventh grade level to defend fragrance safety in the face of all the online attacks and bad science that is so easy to disseminate. The seventh grade level comment is not intended as mean spirited but rather represents a reality that even government agencies like US Environmental Protection Agency are facing.

The difference between data and criteria is particularly challenging to communicate. RIFM and IFRA are based on risk rather than hazard, and criteria are set by an Expert Panel that applies a combination of extensive technical knowledge with nuance of interpretation to arrive at the guidelines used by industry. This is a process that is intellectually challenging even for most industry professionals, much less the general consumer. Fragrance companies are fighting a rear action to maintain the mystique of fragrances, but the fact is that they are mixtures of chemicals subject to all the safety and regulatory requirements of chemicals in general. The public wants disclosure. Some companies are trying to post ingredients on their websites and are obviously finding intense resistance from suppliers. Someday a government agency or new law may make this discussion irrelevant, but proactively taking the initiative is always the best approach, and it has served the cosmetic industry well for 40 years. Would full ingredient disclosure in a Web-based, uniform format change that? With some accompanying easy to understand explanations of safety and toxicology (admittedly a tall order), could perfumes cease to be demonized for "secret ingredients," endocrine disruptors, phthalates and all the other "evil" materials? Ultimately, would a fragrance with ingredient transparency smell as sweet, and be less threat to the industry than the current distrust and confusion? The industry must form its own answers.

[a] *www.sciencedaily.com/releases/2007/02/070218134322.htm*

[b] *www.cnn.com/2011/OPINION/04/28/nyhan.birther.truth/index.html?hpt=Sbin*

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