

Letter to the Editor

Fragrance allergen substitution

Dear Sir

We have read with interest the paper by White et al. (1). The authors assert that when making guidelines to restrict the use of potential allergens, IFRA does not provide guidance on allergen substitution. It is necessary to understand the basis of the IFRA Guidelines. They work on the principle of banning or restricting ingredients in order to reduce risks for consumers. As with the EU Cosmetic Directive, there is no comprehensive list of ingredients that may be used.

However, this does not mean that when restricting an ingredient, IFRA does not consider the possibility of perfumers replacing the ingredient with one presenting the same or an even greater risk. Where a replacement ingredient, which may present a risk, can be predicted, or where interactions are known, IFRA has co-restricted ingredients, e.g., rose ketones in 1991, phototoxic ingredients containing 5-methoxy psoralen in the 1970s or the family of safrole, isosafrole and dihydrosafrole in 1987.

Where perfumers have used replacements which are subsequently found to present similar risks, IFRA has added these to the guidelines. An example is the restriction of methyl heptine carbonate (1976) to which was added a restriction of methyl octine carbonate in 1988 with a co-restriction in 1992. Allyl heptine carbonate was similarly restricted in 1989. As a further example, in 1991, treemoss was combined with the restriction on oakmoss (1988) and the two, again in combination, further restricted in 1998. In 1995, the scope of the guidelines on rose ketones was extended to include a related potential replacement shown to have the potential for allergy.

It is not always possible for perfumers to predict how they will respond when confronted with the challenge to replace an ingredient, as the solution will vary from one fragrance mixture to another and from one application to another. Asking in advance of confrontation with the problem has therefore never proved fruitful. As the authors suggest, sometimes an odour area may be abandoned or ingredients with similar smells and function used.

The case of isoeugenyl acetate replacing isoeug-

enol is significant and IFRA is grateful to the authors for bringing the reactions to the acetate, presumably due to hydrolysis, to its attention. The original predictive testing carried out by the Research Institute for Fragrance Materials (RIFM) did not indicate a potential for induction of sensitization (2). In the light of the new IFRA guideline, further restricting isoeugenol exposure and the possibility of the acetate replacing it, we can report that RIFM is currently re-evaluating the acetate to see if any action by IFRA is necessary. It may be that the quantities of isoeugenol released by hydrolysis of isoeugenyl acetate on the skin are sufficient to elicit a reaction in people pre-sensitized to isoeugenol, but are insufficient to induce sensitization.

The recent reduction in isoeugenol usage brought about by the IFRA guidelines will take time to work through the marketplace and the home. The monitoring by dermatologists of allergy to isoeugenol (and its acetate) during this period is of vital importance to determining the effectiveness of the IFRA Guidelines. The conclusions of RIFM on induction of allergy by isoeugenyl acetate are also important to determine whether further control is necessary. It is to be hoped that dermatologists and the fragrance industry, supported by RIFM, can work closely together to reduce the incidence of contact allergy to fragrance ingredients.

Yours sincerely

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References

1. White I R, Johansen J D, Gimenez Arnau E, Lepoittevin J-P, Rastogi S, Bruze M, Andersen K E, Frosch P J, Goossens A, Menné T. Isoeugenol is an important contact allergen: can it be safely replaced with isoeugenyl acetate? *Contact Dermatitis* 1999; 41: 272-275.
2. Opdyke D J L. RIFM monograph on isoeugenyl acetate. *Fd Cosmetic Toxicol* 1975; 13: 819.