

Benzyl Alcohol: A Covert Fragrance

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BENZYL ALCOHOL, also known as phenylmethanol or phenylcarbinol, is a colorless liquid with a slightly sweet odor and a sharp burning taste.¹ It is one of the constituents of jasmine absolute essential oil and balsam of Peru (*Myroxylon pereirae* tree sap).^{1,2} Contact allergy to fragrance-based chemicals is a frequently encountered problem, and balsam of Peru and fragrance mix I chemicals account for approximately 25% of the positive reactions identified by the North American Contact Dermatitis Group (NACDG).³

Balsam of Peru is among the 23 allergens on the Thin-Layer Rapid Use Epicutaneous (T.R.U.E., Mekos Laborataics, Hillerod, Denmark) Test patch-test screening kit approved by the Food and Drug Administration (FDA). Purified benzyl alcohol, however, is not included in this kit and has only recently been selected for inclusion on the 2007 NACDG standard screen.²

The code of federal regulations defines a fragrance as “any natural or synthetic substance or substances *used solely* to impart an odor to a cosmetic product.”¹ This definition is used by the FDA to keep fragrances out of fragrance-free products.

Benzyl alcohol (and its oxidation metabolite benzoic acid) is found in a wide variety of common pharmaceutical, cosmetic, and flavoring industry products.¹ In addition to serving as a fragrance, it also functions as anesthetic, an antipruritic, a solvent, a viscosity-reducing agent, and a preservative in topical preparations.⁴ For this reason, it may be encountered in products labeled “fragrance-free.” The cosmetic industry has considered benzyl alcohol a covert fragrance capable of eliciting significant contact allergy. This creates difficulty for fragrance-allergic patients seeking alternative products. (See Tables 1 and 2^{5–10} for examples of “fragrance-free”

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products and therapeutic agents containing benzyl alcohol.)

Benzyl alcohol has been reported to cause delayed- and immediate-type hypersensitivity reactions as well as systemic reactions.¹¹ However, it is important to note that under the Voluntary Cosmetic Reporting Program, benzyl alcohol was listed as an ingredient in only 322 cosmetic formulations in January 1998. Furthermore, almost a decade later, only 511 products have been reported to the FDA voluntarily by companies (F. Alan Andersen, PhD, Director, *Cosmetic Ingredient Review*, personal communication, November 2006). This number is remarkably low given benzyl alcohol's inclusion in a wide range of products (eg, moisturizers, shampoos, baby products, eye-makeup removers, sunless tanners, deodorants, fragrances, blushes, lip balms, and pharmaceuticals). There is widespread underreporting to the Voluntary Cosmetic Reporting Program and a need for increased surveillance of this covert allergen.

Table 1. “Fragrance-Free” Products Containing Benzyl Alcohol

Aveeno Daily Baby Lotion [*]
Aveeno Daily Moisturizing Lotion [*]
Aveeno Positively Radiant Daily Moisturizer SPF 15 [*]
Cetaphil Daily Moisturizer SPF 15 [†]
Cetaphil Moisturizing Cream [†]
Moisturel Therapeutic Lotion [‡]
Neutrogena Norwegian Formula Moisturizing Cream [§]
Olay Total Effects Eye Transforming Cream
Olay Total Effects Moisturizing Vitamin Complex ^{**}

^{*}Johnson and Johnson Co., New Brunswick, NJ, USA.

[†]Galderma Laboratories, L.P., Montreal, Canada.

[‡]Warner Chilcott, Fajardo, Puerto Rico, USA.

[§]Johnson and Johnson Co., Los Angeles, CA, USA.

^{||}Proctor and Gamble, Co., Nenagh, Ireland.

^{**}Proctor and Gamble, Co., Cayey, Puerto Rico, USA.

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Table 2. Potential Sources of Benzyl Alcohol in Medical Therapeutics

Betamethasone dipropionate (cream)
Botulinum Toxin Type A cosmetic*
Clotrimazole (cream)
Dexamethasone (injectable)
Methylprednisolone aceponate cream
Methylprednisolone sodium succinate (injectable)
Mupirocin (cream)
Parenteral formulations of vitamin B ₁₂ *
Pimecrolimus (cream)

Adapted from Verecken P et al⁵; Corazza M et al⁶; Shaw DW⁷; Podda M et al⁸; Turvey SE et al⁹; Aguirre A et al.¹⁰

*In reconstitution preservative.

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