

CONTACT POINT

First case of contact dermatitis caused by C12–13 alkyl malate used in a skin care product for acne

Adeline Prost¹  | Camille Leleu¹ | Maud Jordan¹ | Justine Pasteur² | Evelyne Collet¹

¹Department of Dermatology, CHU Dijon, Dijon, France

²Department of Dermatology, CHU Clermont-Ferrand, Clermont-Ferrand, France

Correspondence

Dr. Adeline Prost, Department of Dermatology, CHU Dijon, 14 rue Paul Gaffarel, 21000 Dijon, France.

Email: prostadeline@gmail.com

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Di-C12–13 alkyl malate is a diester of C12–13 alcohols and malic acid and used in cosmetics as a skin conditioning agent and emollient. Here, we report the first case of contact dermatitis induced by C12–13 alkyl malate in a cream for acne-prone skin.

CASE REPORT

A 41-year-old woman was referred for an episode of acute facial contact dermatitis secondary to the application of two cosmetic products: HYSÉAC - CLEANSING GEL and Hyséac 3-REGUL GLOBAL SKIN-CARE (Uriage Laboratory, Saint-Martin d'Uriage, France). Eczema occurred 1 day after using these products. There were no other changes to the usual skin care regime. The symptoms improved quickly after topical application of a corticosteroid. Patch tests were done on the upper back with IQ Ultra patch test chambers (Chemotechnique Diagnostics, Vellinge, Sweden). The European baseline series was tested along with a cosmetic series (Chemotechnique Diagnostics) and the two aforementioned suspected cosmetics "as is" in a 10% aqueous solution and in a semi-open test. Tests were read on day (D) 2 and D4 according to criteria of the International Contact Dermatitis Research Group. The test results were positive for Hyséac 3-REGUL GLOBAL SKIN-CARE (++) on D2 and D4; Figure 1) and negative for HYSÉAC - CLEANSING GEL. The other patch tests were negative. A repeated open application test with Hyséac 3-REGUL GLOBAL SKIN-CARE was positive on D2.

Further patch testing was done for the ingredients of Hyséac 3-REGUL GLOBAL SKIN-CARE. The patient reacted to C12–13 alkyl malate 10% pet. and "as is" (++) on D2 and D4 for both) (Figure 2). The other cosmetic ingredients of the cream yielded negative

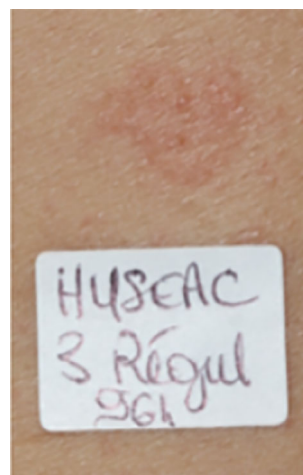


FIGURE 1 Positive patch test result with Hyséac 3-REGUL GLOBAL SKIN-CARE on day 4

results. Patch tests with C12–13 alkyl malate "as is" yielded negative results in five controls.

DISCUSSION

Di-C12–13 alkyl malate belongs to the family of dialkyl malates which are used in cosmetic products as emollients, skin conditioners, and keratolytic agents. All dialkyl malates have a similar chemical structure and similar physicochemical properties. Di-C12–13 alkyl malate can be found in approximately 30 cosmetic products, mostly in leave-on products, rarely in rinse-off products.

Toxicological data indicate that these malic acid esters are generally safe for use in cosmetics. No cases of irritation or sensitization



FIGURE 2 Positive patch test result with di-C12–13 alkyl malate on day 2

have been reported in experiments on cosmetics containing di-C12–13 alkyl malate, and experimental human patch testing with this ingredient (100%) was negative.¹ This is the first reported case of allergic contact dermatitis caused by this compound. Although not possible in our patient, it would be interesting to study cross-reactivity with other dialkyl malates. In conclusion, this is the first

reported case of contact dermatitis caused by C12–13 alkyl malate in a cream for acne-prone skin.

CONFLICTS OF INTERESTS

There are no conflicts of interest to disclose.

ORCID

Adeline Prost  <https://orcid.org/0000-0003-3915-7112>

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