

Allergic Contact Dermatitis from a Permanent Marker

Carlos Romaguera, Juan Vilaplana, and Ramon Grimalt

Précis

We report a vesicular reaction close to patch-test sites that had been previously marked with an Edding 3000 permanent marker.

From the Allergy Unit, Department of Dermatology, Hospital Clínic, Barcelona, Spain.

Address information requests to Ramon Grimalt. E-mail: grimalt@ub.edu

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Discussion

A 42-year-old housewife and teacher came to our allergy department complaining about intense itching related to the application of an elastic bandage. Standard patch tests yielded positive reactions at 48 and 96 hours to rosin (+++), fragrance mix (++), wool alcohols (++), and *Myroxilon pereirae* (++). Patch tests with a plastics and glues series from Chemotechnique Diagnostics (Malmö, Sweden) showed positive reactions at 48 and 96 hours to bisphenol A (++), abitol (+++), and 2-n-octyl-4-isothiazolin-3-one (++).

Following the instructions of our allergy unit nurse, the patient herself used a red-colored Edding 3000 marker



Figure 1. Vesiculous positive (+) reaction to the permanent marker at 96 hours.

pen (Edding International, Ahrensburg, Germany) to mark the position of the tests, which read as slightly positive on all marks at 48 hours; this was more evident at 96 hours (Fig 1).

According to the manufacturer, the marker contains rosin plus organic colorants and solvents; no further information regarding these two last components was supplied.

At 25 days, the patient was patch-tested with both the Chemotechnique epoxy and textile color series, with negative results.

The relevancies to wool alcohols and fragrance mix are unknown.

The relevance to rosin is present as rosin is found as an adhesive in the permanent marker and as an adhesive in varnishes, printing inks, and general adhesives.

The relevance to abitol is also present as abitol is used in inks and as an adhesive in the permanent marker. Other related positive allergens are *Myroxylon pereirae* and bisphenol A (a raw material of epoxy and acrylic resins), which is used as an adhesive.

Cases of allergy to permanent markers have been previously described. Three reported cases involved the Edding 3000 permanent marker, with positivity to abitol and colophony¹; the same type of permanent marker, with positivity to Solvent Yellow 146²; and a Pentel permanent marker (Elk Grove Village, IL), with positivity to rosin, abietic acid, and abitol.³ In all these cases, the permanent marker ink caused positive reactions on the patch tests.

Zebra

Permanent markers are a rare but established cause of allergic contact dermatitis.

References

1. Martín García C, Conde Salazar L, González Mendioca R, et al. Contact dermatitis caused by Edding 3000. *Allergy* 2004;59:235–6.
2. Komericki P, Kern T, Aberer W, Kränke B. Contact dermatitis from Solvent Yellow 146 in a permanent marker. *Contact Dermatitis* 2001; 44:256.
3. Fresquet E, Guillot B, Raison-Peyron N. Allergic contact dermatitis to rosin after a single accidental permanent marker skin contact. *Contact Dermatitis* 2006;55:58–9.