

BRIEF REPORT

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Nickel Ferrule Applicators: A Source of Nickel Exposure in Children

Abstract: Eye makeup has been investigated for nickel content and found to have no direct association with nickel allergy and cosmetic dermatitis. However, the tools used (e.g., eyelash curlers, hairdressing scissors, hair curlers, and eye shadow and makeup applicators) may be sources. Nickel is ubiquitous and a wide range of sources have been reported, and makeup applicators (ferrules) now join the list.

Nickel contact allergy in female U.S. children and teenagers has been reported in association with contact from items such as costume jewelry, belt buckles, eyelash curlers, mobile phones, and hair clasps (1). The Danes investigated makeup and found no association between nickel allergy and cosmetic dermatitis from mascara or eye shadow use. The authors noted that this did not absolutely exclude a causal relationship in selected cases, and the tools used to apply makeup (e.g., eyelash curlers, hairdressing scissors, hair curlers, and makeup applicators). Herein it is noted that specifically the nickel ferrules (nickel crimp connectors) on the shaft of makeup applicators may be a source. The ferrule lies at the base of the brush hairs and is generally the site where the brush or applicator is held for fine control.

An Austrian study on hand dermatitis found that two-thirds of the evaluated population had become sensitive to nickel during their hairdressing apprenticeship. It was also found that hairdressers' nails contained 10 times as much nickel as those of controls, highlighting the significance of repeated handling of nickel-based tools. It was recommended that hairdressers be supplied with nickel-free instruments (2). Patients are instructed to bring their personal hygiene and avocational products with them to the consultation visit in our contact dermatitis clinic. The routine procedure also includes examining handbag contents for common sources of allergens. Nickel ferruled tools are often seen in the purses of teenage girls and may be a forgotten source of exposure for nickel-sensitive patients (the use

of plastic-handled alternatives can reduce dermatitis from tools with nickel ferrules; personal observation by JIS). Specifically, nickel may be transferred from the fingers to the eyelid after handling the ferrule and then using the fingertips as eye shadow applicators. Makeup

TABLE 1. Brands of Makeup Applicators and Brushes with Nickel Ferrules

Aqualon
Bdellium Brushes
BeautyKiss by Haydn
Becca
Beyondtek
Canary Cosmetics
Chantecaille (Concealer Brush)
Christopher Drummond Beauty
Cinema Secrets
Cosbon Cosmetics
Cozzette
Face Secrets
Glocos International
Indeutsch Industries
Loew Cornell
MAC Cosmetics
MichaelMarcus
Mineral Mine
Mojo
Morris Costumes
Naked Face Cosmetics
OCC
Raphaël
Royal and Langnickel Beauty Collection
Signature RR
Smashbox
Snazaroo
Sonia Roselli
Tintocil
Toney Makeup Brushes Co.
Vert Beauty
White Taklon



Figure 1. Dimethylglyoxime-positive makeup applicators (nickel ferrule).

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tools with nickel ferrules that were found to test positive for dimethylglyoxime are shown in Fig. 1. Table 1 provides a list of makeup brushes and applicators with nickel ferrules that can be readily found online.

With nickel dermatitis on the rise, we recommend replacing makeup applicators with nickel ferrules with alternatives such as plastic, wood, or disposable cotton-tipped applicators.

REFERENCES

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