

Conclusions: Patients with FM have a poorer oral status than controls, particularly concerning periodontitis. Periodontitis is a well-described route to systemic inflammation and is associated with other inflammatory systemic conditions. Further work is required to assess whether contact allergy may play a role in poorer oral status and systemic inflammation in FM.

FS-25 | Chemical Analysis of Allergens Present in Gloves to Support Clinical Diagnosis

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Background and purpose: Glove-related allergic contact dermatitis (ACD) due to rubber accelerators and other glove constituents is a frequent cause of occupational skin disease and a significant clinical challenge. Contact allergy diagnosis relies on a detailed exposure history, clinical examination, and targeted patch testing using the European Baseline Series (EBS) and extended allergen series when indicated. However, glove ingredients are often insufficiently labelled. The objective of this work was to chemically characterise the allergen content of professional gloves, including accelerator-free gloves, available on the French market (2017–2025), and to assess the clinical relevance for diagnosis and management of occupational ACD.

Methods: A panel of 45 priority allergens was defined based on literature, regulatory data, and known sensitizers in glove materials. Ninety-nine pairs of single-use and reusable gloves, including those labelled as accelerator-free, were collected. Samples were extracted with methanol and analysed by liquid chromatography–tandem mass spectrometry (LC-MS/MS). Four chemical families were targeted: vulcanisation accelerators, biocides, plasticisers, and other compounds.

Results: Only one glove was devoid of all target allergens; others contained 1–14 different sensitizers. Unexpected allergens were sometimes identified, for example vulcanisation accelerators were identified in gloves marketed as accelerator-free. Chemical analysis supported clinical diagnosis in several occupational ACD cases by confirming relevant allergen exposure. A database was developed to facilitate rapid identification of glove allergens and guide to a substitution solution.

Conclusions: Chemical analysis reveals clinically relevant and often undeclared sensitizers in professional gloves, including accelerator-free products. This approach complements patch testing and enhances diagnostic accuracy, risk assessment, and preventative strategies in occupational ACD.

FS-26 | Cosmetics as a Source of Tin Exposure

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Purpose: Cosmetics are applied repeatedly to large areas of skin or mucous membranes, resulting in significant exposure to their ingredients. Recent data suggest that sensitization rates to tin (stannum, Sn) are relatively high. The aim of this study was to analyse the prevalence of tin compounds in cosmetics.

Methods: Ingredients lists of a large bulk of cosmetic products for adults and children were analysed for the presence of tin compounds, including cleansing, skincare, and oral hygiene products, as well as coloured cosmetics.

Results: Of the 9185 cosmetic products analysed in this study, 230 (2.5%) had tin compounds listed as ingredients. Tin oxide was declared in 179 products (1.9%), sodium stannate in 38 (0.4%), stannous fluoride in 12 (0.1%), and stannous chloride in 1 product (0.01%). Tin compounds were prevalent in leave-on facial cosmetics, such as coloured lip products (41.7%), CC creams (13.3%), eyelid care products (10.0%), foundations (8.0%), BB creams (6.2%), face creams (4.4%), products for vascular skin (4.0%), and cosmetics with vitamin C (2.7%). Of the 113 toothpastes analysed, stannous fluoride was declared in 10.6%, tin oxide in 2.6%, and stannous chloride in 0.9%. Among leave-on body cosmetics, tin oxide was detected in 8.4% of perfumed children's products, 6.2% of self-tanners and 3.0% of body lotions. Tin oxide was also found in 6.5% of nail polishes. Sodium stannate was present in 38.0% of analysed hair dyes.

Conclusions: Cosmetics appear to be a significant source of tin exposure. The most common forms of tin in cosmetic products are tin oxide (CI 77861), sodium stannate and stannous fluoride. The prevalence of tin varies depending on the product type. The high prevalence of tin compounds in products intended for prolonged and repeated contact with skin and oral mucosae, including cosmetics for children, deserves due attention.

FS-27 | Ten Years of Patch Testing to Hydroperoxides of Limonene and Linalool: Prevalence, Patterns, and Clinical Insights

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Purpose: Limonene and linalool, common fragrances in cosmetics and household products, autoxidise upon air exposure into potent sensitizers: hydroperoxides of limonene (Lim-OOH) and linalool (Lin-OOH). The purpose of this study was to assess patch test reactions to Lim-OOH and Lin-OOH, including associated patient characteristics, reaction patterns (with subclassification of doubtful reactions), and co-reactivity with other fragrance allergens.

Methods: Retrospective analysis of registry data from 6719 consecutively patch-tested patients at Gentofte Hospital, Denmark (2014–2025). Doubtful reactions were subclassified clinically as erythematous only (E) or infiltrated (I).

Results: Positive patch test reactions occurred in 1.6% for Lim-OOH and 3.1% for Lin-OOH. Lim-OOH positivity was less common in men and patients with atopy, occupational or hand dermatitis; Lin-OOH positivity was more frequent in patients aged > 40 years and less in those with atopic dermatitis. Most reactions peaked on D3/D4 and were weakly positive. Doubtful (I) reactions progressed into positive more often than doubtful (E). Co-reactivity was evident between Lim-OOH, Lin-OOH, and other fragrance allergens. Lower test concentrations reduced sensitivity.