

Short Communication

Allergic contact dermatitis from *d*-limonene in a laboratory technician

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Case Report

A 53-year-old histopathology medical laboratory scientific officer presented with recent patchy dermatitis on the dorsum of his fingers and hands. He had been working in pathology laboratories for 38 years and had no previous history of skin problems. He felt that the culpable agent was a new solvent (Parasolve®), containing *d*-limonene, which was being used as an alternative to xylene.

Patch testing to the European standard series and his own gloves was negative. He showed an allergic reaction to the diluted solvent and *dl*-limonene (dipentene) as follows:

	D2	D4
Parasolve® 5% aq.	?+	++
dipentene 1% pet.	—	+

His dermatitis improved on avoidance of direct contact with the new solvent.

Comment

d-limonene is a monoterpene hydrocarbon, and is the major constituent of citrus peel oils (90–95%) and other ethereal oils. It has been used at low concentration as a flavouring agent and fragrance for many years, and at higher concentration as an industrial degreaser and

hand cleanser ('citrus solvent'). More recently, *d*-limonene-based products have been used as a non-toxic substitute for xylene, and as a wax solvent and cleaning agent (1).

Hydroperoxides in autoxidized *d*-limonene have been identified as potent contact sensitizers (2). Occupational contact dermatitis has been reported in car mechanics (3), and following exposure to wax polish (4) and honing oil (5). A recent series of patients with dermatitis, who were allergic to oxidized *d*-limonene on patch testing, included 4 cases of occupational exposure to fruits, flavours and vegetables, and 6 who had contact with cleaning products (6).

References

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