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Allergy to wool alcohols

What are wool alcohols?

Wool alcohols are the principle component of lanolin in which allergens are found. Lanolin is a natural product obtained from the fleece of sheep. Sebum is extracted from the wool, cleaned and refined to produce anhydrous lanolin. This comprises 3 parts, wool alcohols, fatty alcohols and fatty acids. Currently the wool alcohols are considered the main sensitisers in lanolin but whether they are the sole sensitisers, needs further investigation. Nowadays there is also chemically modified lanolin that may be less sensitising than natural lanolin.

Wool alcohols, wool fat, anhydrous lanolin, lanolin alcohol, wool wax and wool grease are just some of the terms used interchangeably with lanolin. In this article we will use wool alcohols, as it is this fraction of lanolin that is the main cause of contact allergies.

What products contain wool alcohols?

Lanolin is a good emulsifier; this means it binds well with water thus it is particularly useful in the manufacture of pharmaceutical and cosmetic formulations. Wool alcohols are found in many pharmaceutical preparations, cosmetics and toiletries. They also have some industrial uses.

Pharmaceuticals	Cosmetics/toiletries	Industrial
<ul style="list-style-type: none"> • Steroid-containing creams/ointments • Haemorrhoidal preparations • Medicated shampoos • Veterinary products • Liniments 	<ul style="list-style-type: none"> • Hand creams • Moisturizers • Protective creams • Self-tanners • Sunscreens • Glossy lipsticks • Makeup removers • Foundations, powders • Eye makeup • Hairspray • Shaving creams • Baby oils, diaper lotions 	<ul style="list-style-type: none"> • Printing ink • Furniture and shoe polishers • Textile finishers • Lubricants, cutting fluids • Paper • Leather

What are the reactions of allergy to wool alcohols?

Typical [allergic contact dermatitis](#) reactions may occur in individuals allergic to wool alcohols. The rash is characteristically located on the face, hands and arms. There may be intense swelling and redness of the affected area within a few hours or the rash may appear after a day or two of the product being used.

Am I allergic to wool alcohols?

[Patch testing](#) using 30% wool alcohol in petrolatum is what is routinely used to test for sensitivity to wool alcohols. Although wool alcohols are the main sensitizers in lanolin they may not always be the cause of the sensitivity and patch testing with natural lanolin from several sources is also recommended.

The development of chemically modified lanolin may help to reduce the incidence of skin reactions to natural lanolin. However, there have been cases where patients have shown marked sensitivity to modified lanolin, yet not to natural lanolin. Dermatitis caused by modified lanolin may be missed if patch testing is confined to testing with wool alcohols and natural lanolin only.

Since lanolin is a natural product, its constituents vary depending on its source. Therefore an individual may be allergic to some lanolin-containing products but not to others. Self-testing a product for allergy to lanolin-containing products is possible but should be done only after first talking with your doctor. This should be done only with products that are designed to stay on the skin such as cosmetics and lotions. Apply a small amount (50 cent sized area) of the product to a small tender area of skin such as the bend of your arm or neck daily for 5 to 7 days. Examine the area each day and if no reaction occurs, it is unlikely you are allergic to it, although it may still act as an irritant. Products such as soaps, polishers and waxes should not be tested in this way.

Management of dermatitis caused by wool alcohol allergy

Once the dermatitis appears on the skin, the first thing to do is to remove the source. In most instances this would entail stopping the use of all products that contain lanolin.

Standard treatment with [emollients](#) and [topical steroids](#) must not contain lanolin.

What should I do to avoid wool alcohol allergy?

If you have wool alcohol allergy the best way to avoid any problems is by avoiding all products that contain wool alcohols. Check all product labels for the list of ingredients and do not use if they contain wool alcohols or any of the other names for wool alcohols. If you are unsure, ask your pharmacist for advice and a suitable alternative.

Alert your doctor to the fact that you have an allergy to wool alcohols. This is particularly important as some topical medications that your doctor may want to prescribe to you contain wool alcohols.

Your dermatologist may have further specific advice, particularly if you are highly sensitive to wool alcohols.

Alternative names for wool alcohol

Wool alcohol is also known by several other names. These include:

- Adeps lanae anhydrous
- Aloholes lanae
- Amerchol
- Anhydrous lanolin
- Lanolin
- Wool fat
- Wool grease
- Wool wax

Avoid all of these. At work, request a material safety data sheet to help identify potential sources of exposure.

Further information

Cross reactions: cetyl or stearyl alcohols (Eucerin™, Aquaphor™)

Sensitizer: Wool alcohol is the main sensitizer in lanolin

Patch Test: Wool alcohol 30% in petrolatum**Related information****Reference**

- Book: [Fisher's Contact Dermatitis. Ed Rietschel RL, Fowler JF. Lippincott Williams & Wilkins 2001](#)

On DermNet NZ:

- [Dermatitis](#)
- [Allergic contact dermatitis](#)
- [Patch testing](#)

Other websites:

- [T.R.U.E. Tests](#): contact allergy to wool alcohols
- [Cardiff](#) Contact Dermatitis Information, lanolin (wool alcohols)
- [Allergic contact dermatitis](#) - emedicine dermatology, the online textbook

Books:

See the [DermNet NZ bookstore](#)

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DermNet does not provide an on-line consultation service.

If you have any concerns with your skin or its treatment, see a [dermatologist](#) for advice.

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