



GLOVE RELATED ALLERGIC CONTACT DERMATITIS (TYPE IV [DELAYED] HYPERSENSITIVITY)

CHEMICAL ACCELERATORS INDUCE THE MAJORITY OF CHEMICAL ALLERGIES

Allergic reactions to chemical residues from the glove manufacturing process may produce what is known as a **Type IV Allergy (Chemical Allergy) or ACD**. This type of allergy is not life threatening, but it is a major concern for healthcare workers and those employed in the Life Sciences industry. Glove manufacturers use a variety of chemicals to produce both NRL and synthetic rubber gloves. Different manufacturers use different chemical combinations and nearly all manufacturers leach and wash their gloves to minimize residual chemicals in the final product. A chemical allergy is due to an immunological reaction to a residual chemical leached from finished glove products into the skin of the wearer.

The chemicals used in the glove manufacturing process fall into the following broad classifications:

- Accelerators
- Accelerator activators
- Stabilizers
- Antidegradants
- Retarders
- Fillers
- Extenders

Chemical accelerators induce the majority of chemical allergies. The residues from these accelerators have become a focused concern because of their ability to sensitize users and elicit chemical allergic reactions. Over 80% of reported glove associated allergic contact dermatitis is attributable to chemical accelerators.

30%
of healthcare
workers'
skin-related reactions
are chemical allergies
or sensitivities^{1,2,3}



80%
of these allergies
or sensitivities
are caused
by chemical
accelerators^{4,5}

Why are accelerators used?

Accelerators are used to chemically speed up the vulcanization process during the manufacturing of natural and synthetic latex gloves.

Are accelerators safe?

Current regulations in most geographic regions require conducting two skin irritation tests, one long term and one short term, on the finished glove product. This battery of tests ensures that the vast majority of glove users will not experience any sort of irritating response from the glove or any chemical accelerators used in production.

References: 1. Nixon R. 2005. Occupational dermatoses. Australian Family Physician. 34(5). 2. Schnuch A, Uter W, Geier J, Frosch PJ, Rustemeyer T. 1998 Sept. Contact allergies in healthcare workers: results from the IVDK. Acta Derm Venereol. 78(5):358-63. 3. Thompson R. 1996. Chemical allergy: the other latex allergy. Source to Surgery. 4(1). 4. Gardner N. 2008 Oct. Shield Scientific: health and safety international. 5. Heese A, Hintzenstern JV, Peters K, Koch HU, Hornstein OP. 1991. Allergic and irritant reactions to rubber gloves in medical health services. Journal of the American Academy of Dermatology. 25:831-839. 6.

HAND IRRITATION AND REACTION TRIGGERS

Many glove users experience what is known as **irritant contact dermatitis**, a non-immune reaction that occurs within minutes to hours of glove contact. It is not an allergy, rather a condition as a result of many factors combined with glove use (for example: reactions to detergents/fragrance soap, frequent hand washing, inadequate rinsing/drying). Symptoms are limited to where there is direct glove exposure and include redness, chafing, dryness, and scaling or cracking. To reduce the risk of irritation, minimize contact with the causative agent, commit to a regular skin care regimen, avoid oil/fat based hand creams, and wear powder-free gloves.

In the United States, the Food and Drug Administration (FDA) requires that all medical grade gloves pass both the skin irritation test and the skin sensitization test prior to being marketed.

KEY FACTS / ACD	
Signs and Symptoms	<ul style="list-style-type: none"> • Skin reactions usually confined to the area of contact. • Acute symptoms include itchy, red rash and/or small blisters. • Chronic symptoms include dry thickened skin, crusting, scabbing sores, vesicles, peeling, etc.
How is it diagnosed	<ul style="list-style-type: none"> • Symptoms, medical history and Skin Patch Test
Solution	<ul style="list-style-type: none"> • Products that are produced without the use of any chemical accelerators (e.g. Ansell's MICRO-TOUCH® Nitrafree™, MICRO-TOUCH® Accelerator Free)



MICRO-TOUCH® NitraFree™

- Protection from latex Type I allergy
- Manufactured without sulfur-based chemical accelerators, helping to protect users from Type IV (chemical) allergies
- Tested for use with chemotherapy drugs*



MICRO-TOUCH® Accelerator Free

- Superior barrier protection and puncture resistance
- Chlorinated inner surface for ease of donning
- Protects from latex Type I allergy and minimizes chemical Type IV allergy

*See product packaging or contact Ansell Customer Service for specific chemotherapy drug permeation times and recommendations

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