



TYPE IV ALLERGIES: REDUCING THE RISK OF SENSITIZATION WITH **DPG-FREE GLOVES**

Skin diseases are one of the most common occupational illnesses in Europe.¹

The primary among these is contact dermatitis², which can be divided into irritant-toxic and allergic contact dermatitis (Type IV allergy).



Allergic Contact Dermatitis

Allergic contact dermatitis (ACD) is triggered by a cellular immune reaction. Approximately 20% of the population have a predisposition to this condition.^{3 4 5}

ACD often results in skin redness (erythema), itching, or burning eczema. In sensitized patients, the onset of symptoms typically takes 24 to 48 hours.





Allergy Despite Latex Exit?

Contact dermatitis accounts for 95% of work-related skin diseases.² It is prevalent in the healthcare sector³, with nurses and nursing assistants accounting for the largest share at 40%, followed by medical assistants (22%) and physicians (18%).⁶

Despite the transition to powder-free latex gloves and synthetic gloves since the turn of the millennium, resulting in a significant decline in latex allergy (Type I allergy), Type IV allergies such as allergic contact dermatitis have noticeably increased.⁷ In hospitals, the switch from latex to synthetic gloves has led to a rising number of contact allergies among employees who previously did not show hand dermatitis.^{7 8 9}

Allergic contact dermatitis caused by gloves is primarily attributed to sensitization to accelerators and other process chemicals.^{10 6}



Successful Risk Reduction with DPG- and Accelerator-free Gloves

The most relevant allergens identified were thiuram and 1,3-diphenylguanidine (DPG), with the significance of DPG increasing significantly in recent years.^{7 11} Research suggests that DPG is particularly allergenic.^{7 12 13} Up to 86% of ACD patients tested positive for DPG, and 30% tested positive for thiuram.⁷



DPG-free Gloves recommended

It is advised to choose accelerators with low allergenic potential (e.g., long-chain or highly branched accelerators) or accelerators that are decomposed or broken-down during manufacture.⁷

Studies indicate that the presence of alcoholic solvents (e.g., from the use of hand sanitizers prior to donning sterile gloves) may increase the release of DPG.¹⁴

Therefore, the use of DPG-free gloves is recommended.



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OUR SYNTHETIC AND DPG-FREE PORTFOLIO

Synthetic polyisoprene (IR) is chemically identical to natural rubber and therefore has the same physical properties as natural rubber. It is therefore ideal for the production of skin-friendly gloves, provided that appropriate accelerators are used.

HARPS Global exclusively offers DPG-free products in its portfolio and does not use Thiurams in glove production.



Portfolio overview

OUR DPG- AND LATEX-FREE PORTFOLIO

- For our conventionally crosslinked products (syntegra IR and syntegra green), we use an accelerator system consisting of a long-chain accelerator (from the dithiocarbamate group) in combination with a thermo-reactive molecule that decomposes residue-free during manufacturing.
- For highly sensitized users, we offer a product (syntegra UV) that completely avoids the use of vulcanization accelerators. Instead, crosslinking is achieved through UV light. This product is therefore ideal for people with Type IV allergies.

FREE OF NATURAL LATEX



syntegra UV

Accelerator-free

The sempermed® syntegra UV is the first anti-allergenic polyisoprene surgical glove that is not only latex-free but also completely free of vulcanization accelerators during production. This ensures a high level of safety and skin compatibility, with a comfort level similar to that of natural latex.

FREE OF NATURAL LATEX



syntegra green

Innovative accelerator system

Our sempermed® syntegra green is the ideal underglove for sensitive skin. With a smoother surface structure and optimized fit, it is the perfect option to pair with sempermed® syntegra IR or sempermed® syntegra UV. The green color allows early detection of fluids penetrating between the gloves, as the area around the perforation changes color.

FREE OF NATURAL LATEX



syntegra IR

Innovative accelerator system

This glove utilizes the advantageous combination of two multifunctional accelerators, a thermo-reactive xanthogenate (DIXP) and zinc diisononyldithiocarbamate (ZDNC), resulting in an exceptionally skin-friendly product. The xanthogenate decomposes without residue during glove manufacture.

Additionally, ZDNC is highly soluble in rubber and hardly extractable through aqueous systems (e.g. sweat).

As a result, there are virtually no accelerator residues present in the glove that could trigger Type IV allergies, thus minimizing the Type IV allergy potential. Compared to other dithiocarbamate systems, the sempermed® syntegra IR/green accelerator system is highly effective and significantly improves the properties of the vulcanized material.¹⁵



syntegra UV



syntegra green



syntegra IR

Material

Synthetic polyisoprene

Accelerator

Accelerator-free

Accelerator system without DPG and thiuram

Color

White

Green

Creme

Glove shape

Fully anatomical, with rolled rim

Sterilisation

Radiation **STERILE R**

Packaging

Left and right glove turned up cuff in inner pouch, ozone-tight, sealed in flat medical fibre-free peel pack.

Labeling

EN 455-1/-2/-3/-4, EN 420, EN 421, EN ISO 374-1, EN 374-2, EN 556, EN 16523-1, EN 374-4, EN ISO 374-5, ISO 15223-1

Intended use

as set out in MD Directive 93/42/EEC

as set out in PPE Regulation (EU) 2016/425

Sterile, single-use surgical gloves

Medical Device Class IIa

Personal Protective Equipment Cat. III*



Article numbers

Size 5½	827058521	Size 5½	827053521	Size 5½	827056521
Size 6	827058601	Size 6	827053601	Size 6	827056601
Size 6½	827058621	Size 6½	827053621	Size 6½	827056621
Size 7	827058701	Size 7	827053701	Size 7	827056701
Size 7½	827058721	Size 7½	827053721	Size 7½	827056721
Size 8	827058801	Size 8	827053801	Size 8	827056801
Size 8½	827058821	Size 8½	827053821	Size 8½	827056821
Size 9	827058901	Size 9	827053901	Size 9	827056901

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*Please note the Sempermed Chemical Resistance list is available on <https://www.sempermed.com/chemical-resistance-brands>

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