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Allergy to imidazolidinyl urea

What is imidazolidinyl urea and where is it found?

Imidazolidinyl urea is a [formaldehyde](#)-releasing preservative. It is used in many cosmetics and pharmaceutical preparations.

Cosmetics	Self-hygiene/pharmaceutical products
<ul style="list-style-type: none"> • Foundations, powders, concealers • Eye makeup (liners, shadows, mascara) • Facial makeup (blushes) • Bronzes and tanning creams • Makeup removers • Cuticle removers 	<ul style="list-style-type: none"> • Burn remedies • Shampoos • Moisturizing lotions and creams • Body powders • Sunscreens • Cleansers and other skin care products • Prescription topical medications

What are the reactions to imidazolidinyl urea allergy?

Typical [allergic contact dermatitis](#) reactions may occur, however, imidazolidinyl urea is not a common cause of contact allergy when compared with other preservatives. For this reason, imidazolidinyl urea is often the preservative found in products that are labelled 'hypoallergenic'. However, if you have sensitivity to imidazolidinyl urea, these products are far from being hypoallergenic and should be avoided.

Am I allergic to imidazolidinyl urea?

Imidazolidinyl urea allergy is diagnosed from the clinical history and by performing special allergy tests, i.e. patch tests. Patch testing with 2% imidazolidinyl urea in petrolatum is used. Self-testing a product for imidazolidinyl urea 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 on the skin such as cosmetics (not including eyeliners or mascaras) and lotions. Apply a small amount of the product to a small tender area of skin such as the bend of your arm twice a day for 1 week. Examine the area each day and if no reaction occurs, repeat the test on a small area in front of your ear. If no reaction occurs, it is unlikely you are allergic to it. Even so, you should still be cautious if you are intending to use it over large areas as it may be an irritant.

Products such as [shampoos and cleansers](#) should not be tested in this way as they may cause an irritant dermatitis, which is not allergic, if they are covered or overused on tender areas.

Treatment of contact dermatitis due to imidazolidinyl urea exposure

If you are diagnosed with imidazolidinyl urea allergy then avoid exposure to imidazolidinyl urea-containing products.

Once the dermatitis appears on the skin, treatment is as for any acute [dermatitis/eczema](#), i.e. [topical corticosteroids](#), [emollients](#), treatment of any secondary bacterial infection ([Staphylococcus aureus](#)), etc.

What should I do to avoid imidazolidinyl urea allergy?

Read product labels and avoid products that contain imidazolidinyl urea or any of its alternative names. Be wary of products that are labelled 'hypoallergenic' as these often contain imidazolidinyl urea.

Avoid related substances that you may also be allergic to. This includes [formaldehyde](#) and other formaldehyde-releasing preservatives found in cosmetics, topical agents, and industrial and metalworking fluids.

Formaldehyde-releasing preservatives to avoid

- [Quaternium-15](#) (Dowicil®)
- Diazolidinyl urea (Germall II®)
- DMDM hydantoin (Glydant®)
- Bromonitropropane diol (Bronopol™)
- Tris (hydroxymethyl) nitromethane (Tris Nitro®)

Alert your doctor to the fact that you have an allergy to imidazolidinyl urea. Your dermatologist may have further specific advice, particularly if you are highly sensitive. Preparations that contain other types of preservatives, as long as you do not have an allergy to these too, should be safe to use. Ask your pharmacist for advice.

Possible suitable alternative preservatives

- Methylparaben, ethylparaben, propylparaben, butylparaben, benzylparaben
- Methylchloroisothiazolinone
- Methylisothiazolinone
- Methylidibromoglutaronitrile/phenoxyethanol
- Sorbic acid
- Propylene glycol

Alternative names for imidazolidinyl urea

Imidazolidinyl urea is also known by several other names. These include:

- N,N-methylenebis (N'-)1-(hydroxymethyl)-2,5-dioxo-4-imidazolidinyl urea
- Urea, N,N-methylenebis [N'-[3-(hydroxymethyl)-2,5-dioxo-4-imidazolidinyl]
- 1,1'-Methylenebis[3-[3-(hydroxymethyl)-2,5-dioxo-4-imidazolidinyl]urea]
- Germall 115®
- Imidurea NF®
- Biopure 100®
- Imidurea®
- Sept 115®
- Tristat 1U®
- Unicide U-13®

Further information

Formula: C₁₁H₁₆N₈O₈

CAS number: 39236-46-9

Cross reactions: formaldehyde, formaldehyde-releasing preservatives

Sensitiser: formaldehyde

Patch Test: 2% imidazolidinyl urea in petrolatum

Reference

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

Related information

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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