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Fragrance mix allergy

There are more than 5000 different fragrances that are in use today. In any one product the number of fragrances used can be many. Fortunately only a small number of fragrances are actually common sensitizers and cause allergy in sensitive individuals.

What is fragrance mix and where is it found?

Fragrance mix is a mixture of 8 individual fragrances that is used to screen for fragrance allergy. The 8 listed are the most common allergy-causing fragrances that are used across many products for their fragrant and flavouring properties.

Components of Fragrance Mix	
Fragrance	Used/found in
Cinnamic alcohol <ul style="list-style-type: none"> • Odour of hyacinth • Ester in natural fragrances such as Balsam of Peru, storax, cinnamon leaves, hyacinth oil and propolis 	<ul style="list-style-type: none"> • Fragrance in perfumes, cosmetics, deodorants, paper, laundry detergent products, toilet soap, personal hygiene products • Flavouring in beverages (cola, bitters, Vermouth), chewing gums, toothpaste and mouthwash
Cinnamic aldehyde <ul style="list-style-type: none"> • Warm spicy odour with a taste of cinnamon • Constituent of cinnamon oil 	
Eugenol <ul style="list-style-type: none"> • Powerful spicy odour of clove with a pungent taste • Found in oils of clove and cinnamon leaf • Also found in roses, carnations, hyacinths and violets 	<ul style="list-style-type: none"> • Fragrance in perfume, cosmetics, colognes, toilet waters, hair cosmetics, aftershave, personal hygiene products • Flavouring in toothpaste, mouthwash and food flavourings • Used in dental cement and packing agents thus giving the characteristic odour of dental surgeries • Inherent insecticidal and fungicidal properties — used to preserve meats and other foods • Pharmaceutical creams and lotions for its antiseptic properties
Isoeugenol <ul style="list-style-type: none"> • Odour of clove weaker than that of eugenol • Constituent of nutmeg oil and ylang ylang oil • Isomerization of eugenol 	
Geraniol	

<ul style="list-style-type: none"> • Sweet floral odour of rose • Constitutes a large portion of rose and palmarose oil, geranium oil, lavender oil, jasmine oil and citronella oil • Present in over 250 essential oils 	<ul style="list-style-type: none"> • Most widely used fragrance in perfumes, colognes, facial make-up and skin care products
<p>Alpha amyl cinnamic alcohol</p> <ul style="list-style-type: none"> • Intense odour of jasmine • Synthetic essential oil 	<ul style="list-style-type: none"> • Found in perfumes, soaps, cosmetics and toothpaste
<p>Hydroxycitronellal</p> <ul style="list-style-type: none"> • Sweet fresh odour of lily of the valley • Synthetic floral fragrance 	<ul style="list-style-type: none"> • Found in perfumes, soaps, cosmetics, eye cream, aftershaves • Also used in insecticides and antiseptics
<p>Oak moss absolute</p> <ul style="list-style-type: none"> • Earthy, woody, masculine odour • Essential oil produced by solvent extraction of tree lichen 	<ul style="list-style-type: none"> • Commonly used in colognes, aftershaves and scented products for men

Fragrances may also be found in the workplace. Paints, cutting fluids and metal working fluids may contain fragrances to mask offending odours. Fragrances may also be circulated through air conditioning.

What are the reactions to fragrance mix allergy?

Typical [allergic contact dermatitis](#) reactions may occur in individuals allergic to fragrance mix or any other chemically related substances. 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. Sometimes symptoms may only be redness, dryness and itching.

Oral exposure may cause sore mouth (tongue) and rash of the lips or angles of the mouth. Flare-ups of dermatitis in fragrance-sensitive individuals may occur if they use or consume products containing fragrance allergens.

Contact allergy to fragrance



Positive patch test to fragrance mix



Positive patch test to fragrance mix



Neck dermatitis due to contact with after shave lotion

Am I allergic to fragrances?

Sensitivity to a perfume, cream or lotion is usually the first indicator of an allergy to fragrance. [Patch testing](#) using fragrance mix and [Balsam of Peru](#) detects approximately 75% of fragrance allergy cases. A positive patch to

fragrance mix indicates that you are allergic to one or more fragrance chemicals. An estimated 1–2% of the general population is allergic to fragrance.

Self-testing a product for fragrance allergy 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 for several days in a row. Examine the area each day and if no reaction occurs, it is unlikely you are allergic to it. However, it may still not be suitable for you as it can still cause an irritant reaction. Products such as shampoos, conditioners, soaps and cleansers should not be tested in this way as they frequently cause an irritant dermatitis, which is not allergic, if they are covered or overused on tender areas.

Treatment of dermatitis caused by fragrance allergy

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 fragrance allergy?

If you have a fragrance allergy the best way to avoid any problems is by avoiding all products that contain fragrances of any sort. Unfortunately, fragrance allergy is usually life-long and gets worse with continued exposure.

There are more than 5000 different fragrances that are in use today. In any one product the number of fragrances used can be many. Fortunately only a small number of fragrances are actually common sensitizers and cause allergy in sensitive individuals.

Often products are only labeled as containing fragrance and do not identify the individual chemicals used to make up the fragrance. You should avoid all products that are labeled with any of the following names. These include other names for fragrances, individual fragrance allergens and other related substances that you may also be allergic to.

Other names for fragrances	Individual fragrance allergens	Other potential allergens
<ul style="list-style-type: none"> • Perfumes • Toilet water • Colognes • Masking perfumes • Unscented perfumes • Aroma chemicals • Essential oils 	<ul style="list-style-type: none"> • Amylcinnamic alcohol • Anisyl alcohol • Benzyl alcohol • Benzyl salicylate • Cinnamic alcohol • Cinnamic aldehyde • Coumarin • Eugenol • Geraniol • Hydroxycitronellal • Isoeugenol • Musk ambrette • Oak moss absolute • Sandalwood oil • Wood tars 	<ul style="list-style-type: none"> • Balsam of Peru • Cassia oil • Cinnamon • Cloves • Citronella candles • Ethylene bassylate

Be wary of products that are labelled "fragrance free" or "unscented" as these terms may not necessarily mean they do not contain fragrance chemicals, they just imply the product has no perceptible odour. These products

may possibly contain a masking fragrance that is used to cover up the odour of other ingredients.

Note that clothes washed in scented laundry detergent can be a problem with prolonged skin contact of the garment in the presence of moisture and heat. It would be best to use fragrance-free laundry detergent.

Alert your doctor or dentist to the fact that you have an allergy to fragrance mix. If you are highly sensitive, your doctor may also recommend a special diet that eliminates foods to which these allergens or related allergens are added as flavouring.

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

Further information

Compound	Formula	CAS number:
Cinnamic alcohol	C ₉ H ₁₀ O	104-54-1
Cinnamic aldehyde	C ₉ H ₈ O	104-55-2
Alpha amyl cinnamic aldehyde	C ₁₄ H ₁₈ O	122-40-7
Eugenol	C ₁₀ H ₁₂ O ₂	97-53-0
Isoeugenol	C ₁₀ H ₂₂ N ₂	97-54-1
Hydroxycitronellal	C ₁₀ H ₁₈ O ₂	107-75-5
Geraniol	C ₁₀ H ₁₈ O	106-24-1
Oak moss absolute		

Cross reactions:

- Balsam of Peru
- Cassia oil
- Cinnamon
- Cloves
- Citronella candles
- Ethylene bassylate
- Tiger balm

Appearance: ??

Sensitizer: Cinnamic alcohol, cinnamic aldehyde, alpha amyl cinnamic aldehyde, eugenol, isoeugenol, hydroxycitronellal, geraniol, oak moss absolute

Patch Test: Fragrance mix 8%

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](#): this site provides a wide range of information on contact dermatitis and contact allergy testing
 - [Fragrance Mix](#)
- [AllAllergy.Net](#): allergy and intolerance information resource
- [Allergy New Zealand](#)
- [Auckland Allergy Clinic](#): fragrance (& spice) allergy
- [Cardiff](#) contact dermatitis information, fragrances
- [Fragranced Products Information Network](#): Impact of fragrance on the skin
- [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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