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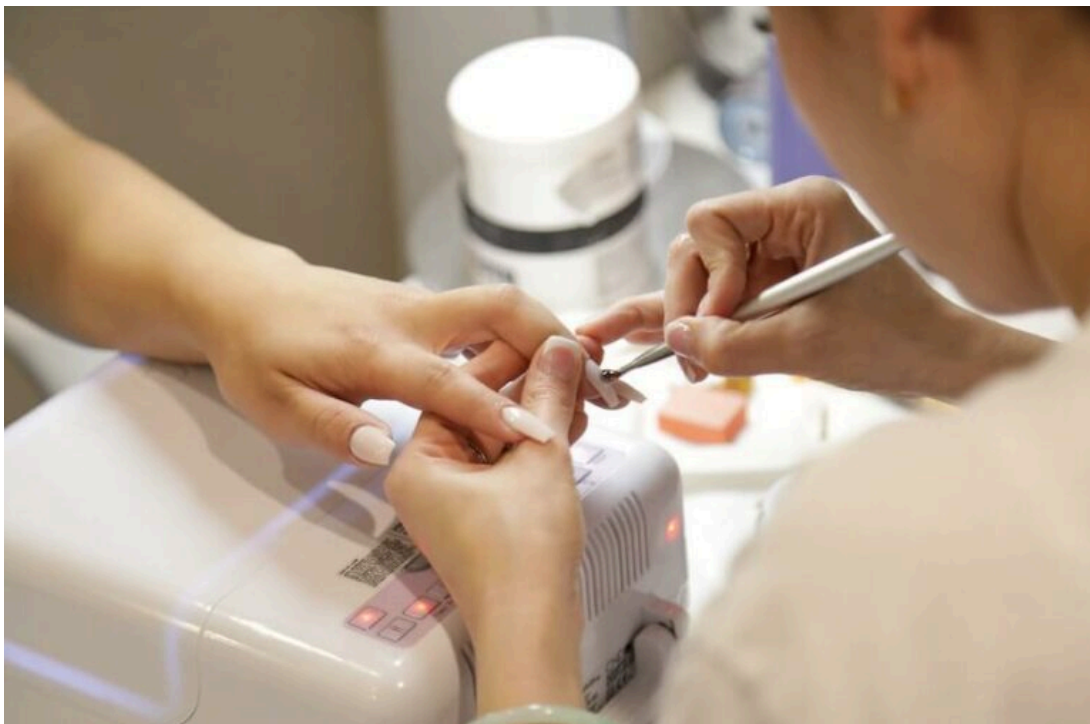
# Health Effect: Allergens & Irritants

## About Allergens & Irritants

An allergen is a substance that can cause an allergic reaction in susceptible people. Not everyone who is exposed to an allergen will have an allergic reaction. However, some allergic reactions can be severe and even fatal. It is therefore important that the presence of allergens in personal care products is disclosed and this information is easily available so that people with allergies can avoid using products containing them.

An irritant is a substance that can cause inflammation or some other discomfort to the body.

## What Chemicals in Personal Care Products are linked to this concern?



[\(https://www.safecosmetics.org/chemicals/acrylates/\)](https://www.safecosmetics.org/chemicals/acrylates/)

### **Acrylates (<https://www.safecosmetics.org/chemicals/acrylates/>)**

Acrylates (ethyl acrylate, ethyl methacrylate, and methyl methacrylate) are ingredients found in artificial nail products. We are mainly exposed to these chemicals through inhalation or skin contact. Despite evidence of adverse skin, eye, and throat reactions to these chemicals, they continue to be used in nail products.



(<https://www.safecosmetics.org/chemicals/benzophenone/>).

### **Benzophenone & Related Compounds**

(<https://www.safecosmetics.org/chemicals/benzophenone/>)

Benzophenone is used in personal care products such as lip balm and nail polish to protect the products from UV light. Derivatives of benzophenone, such as benzophenone-2 (BP2) and oxybenzone (benzophenone-3 or BP3) are common ingredients in sunscreen. Benzophenone is persistent, bioaccumulative and toxic (PBT).<sup>[1][2]</sup> These chemicals are linked to cancer, endocrine disruption, and organ system toxicity.



[\(https://www.safecosmetics.org/chemicals/known-carcinogens/\)](https://www.safecosmetics.org/chemicals/known-carcinogens/)

## **Carcinogens in Cosmetics (https://www.safecosmetics.org/chemicals/known-carcinogens/)**

The laws governing cosmetics and personal care products are so limited that known cancer-causing chemicals, or carcinogens, are legally allowed in personal care products. Some carcinogens, such as formaldehyde and formaldehyde-releasing preservatives, are common in personal care products, while others are less common, but still occasionally present.



[\(https://www.safecosmetics.org/chemicals/formaldehyde/\)](https://www.safecosmetics.org/chemicals/formaldehyde/)

## **Formaldehyde And Formaldehyde-Releasing Preservatives (https://www.safecosmetics.org/chemicals/formaldehyde/)**

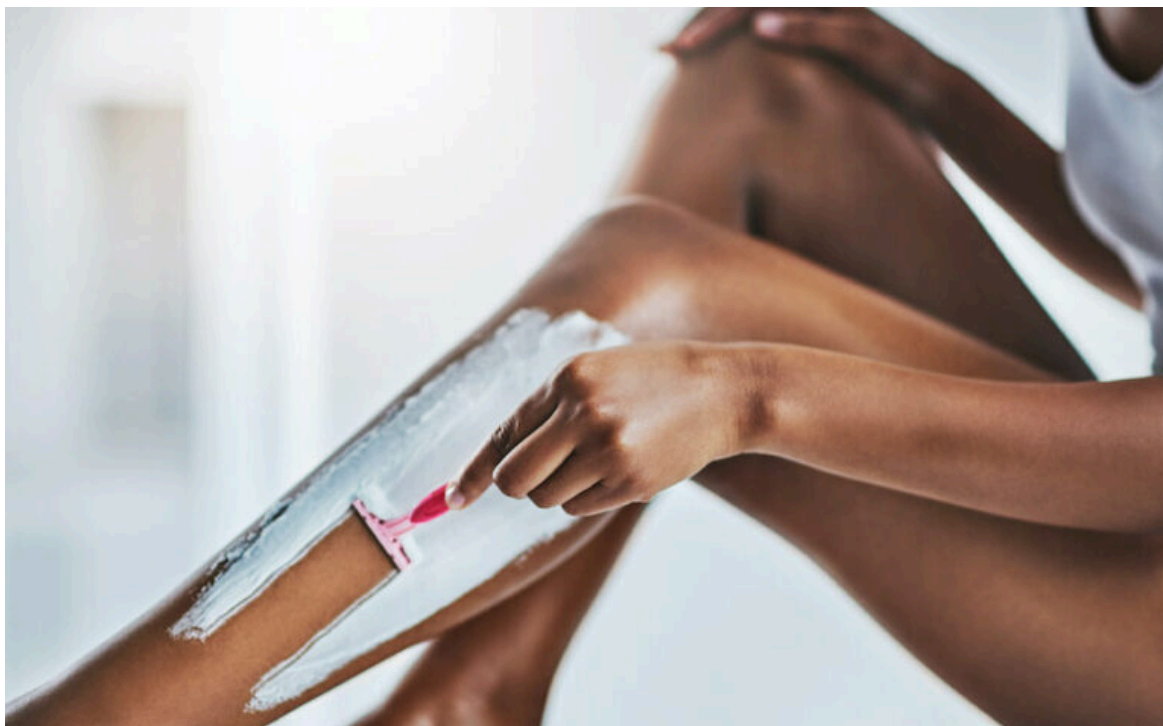
Formaldehyde and formaldehyde-releasing preservatives (FRPs) are used in many personal care products,<sup>[1]</sup> particularly in shampoos and liquid baby soaps.



[\(https://www.safecosmetics.org/chemicals/fragrance/\)](https://www.safecosmetics.org/chemicals/fragrance/)

**Fragrance (<https://www.safecosmetics.org/chemicals/fragrance/>)**

Many products list “fragrance” on the label, but very few name the specific ingredients that make up a “fragrance.” This lack of disclosure prevents consumers from knowing the full list of ingredients in their products.



[\(https://www.safecosmetics.org/chemicals/methylisothiazolinone/\)](https://www.safecosmetics.org/chemicals/methylisothiazolinone/)



**Methylisothiazolinone and Methylchloroisothiazolinone**  
**(<https://www.safecosmetics.org/chemicals/methylisothiazolinone/>)**

Methylisothiazolinone (MIT) and Methylchloroisothiazolinone (CMIT) may be hard to pronounce, but they can be even harder on the body. These common preservatives are found in many liquid personal care products, and have been linked to lung toxicity,<sup>[1]</sup> allergic reactions, and possible neurotoxicity.<sup>[2]</sup>



**(<https://www.safecosmetics.org/chemicals/mica/>)**

**Mica (<https://www.safecosmetics.org/chemicals/mica/>)**

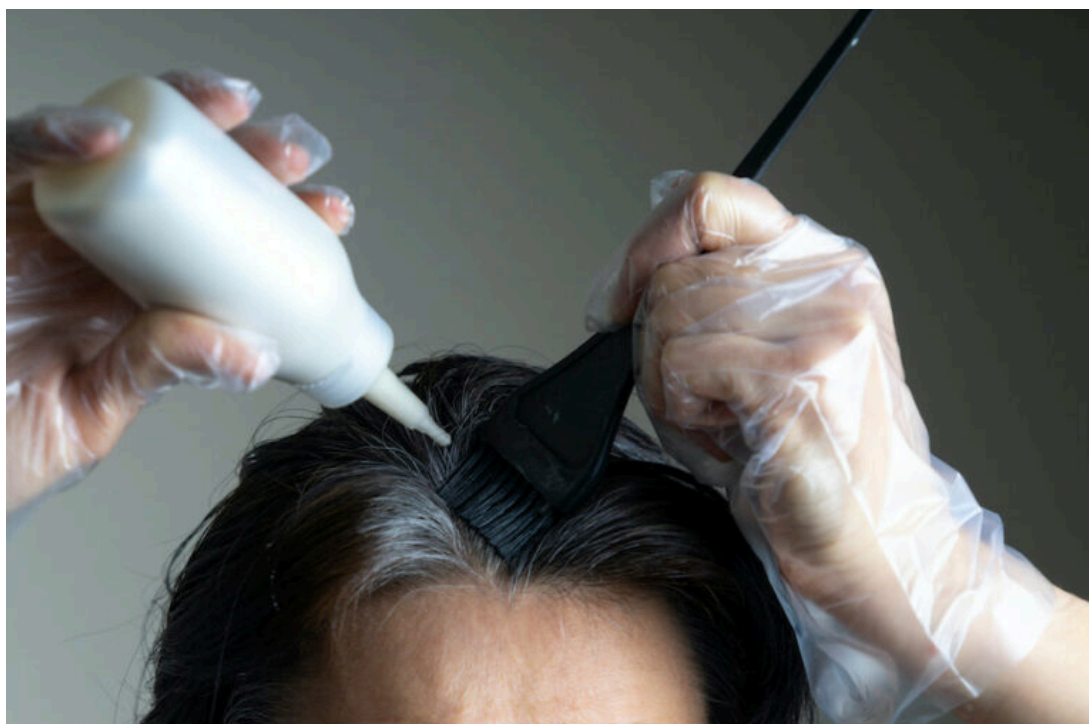
Mica is a naturally occurring mineral dust often used in makeup foundations, as filler in cement and asphalt, and as insulation material in electric cables.



(<https://www.safecosmetics.org/chemicals/nail-polish-removers/>).

### **Nail Polish Removers (<https://www.safecosmetics.org/chemicals/nail-polish-removers/>)**

Isopropyl acetone, methyl ethyl ketone, and n-methyl-pyrrolidone, are commonly used as the solvent in nail polish removers. Evidence suggests that these chemicals may cause reproductive harm and organ toxicity. They are a serious concern for nail salon workers and pregnant women.



(<https://www.safecosmetics.org/chemicals/p-phenylenediamine/>).

## **P-Phenylenediamine (<https://www.safecosmetics.org/chemicals/p-phenylenediamine/>)**

Consumers encounter p-phenylenediamine in many forms of permanent hair dyes called oxidative dyes. As a known skin sensitizer, it leads to allergic reactions. P-phenylenediamine, as well as the products of its reactions with hydrogen, can alter the genetic material of cells.



[\(https://www.safecosmetics.org/chemicals/paba/\)](https://www.safecosmetics.org/chemicals/paba/)

## **PABA (<https://www.safecosmetics.org/chemicals/paba/>)**

PABA and PABA derivatives are commonly used in sunscreens as ultraviolet B (UVB) filters. PABA use has declined over the years, but its derivatives are still around today. PABA may alter thyroid activity<sup>[1]</sup>,<sup>[2]</sup>,<sup>[3]</sup> and PABA derivatives may have additional endocrine disrupting properties.<sup>[4]</sup>,<sup>[5]</sup>,<sup>[6]</sup>





(<https://www.safecosmetics.org/chemicals/phenoxyethanol/>).

**Phenoxyethanol (<https://www.safecosmetics.org/chemicals/phenoxyethanol/>)**

Phenoxyethanol is used as a preservative in cosmetic products and also as a stabilizer in perfumes and soaps.<sup>[1]</sup> Exposure to phenoxyethanol has been linked to reactions ranging from eczema<sup>[2]</sup> to severe, life-threatening allergic reactions.<sup>[3]</sup> Infant oral exposure to phenoxyethanol can acutely affect nervous system function.<sup>[4]</sup>



(<https://www.safecosmetics.org/chemicals/preservatives/>).

**Preservatives (<https://www.safecosmetics.org/chemicals/preservatives/>)**

Preservatives may be used in cosmetics to prevent the growth of harmful bacteria and mold. Parabens and formaldehyde-releasing preservatives are commonly used preservatives in cosmetic and personal care products.



(<https://www.safecosmetics.org/chemicals/quaternium-15/>)

**Quaternium-15 (<https://www.safecosmetics.org/chemicals/quaternium-15/>)**

Quaternium-15, a known skin toxicant and allergen, may be especially dangerous for hairdressers and janitors, who are sometimes exposed to this formaldehyde-releasing chemical at regular doses for long periods of time.



[\(https://www.safecosmetics.org/chemicals/resorcinol/\)](https://www.safecosmetics.org/chemicals/resorcinol/).

**Resorcinol** (<https://www.safecosmetics.org/chemicals/resorcinol/>)

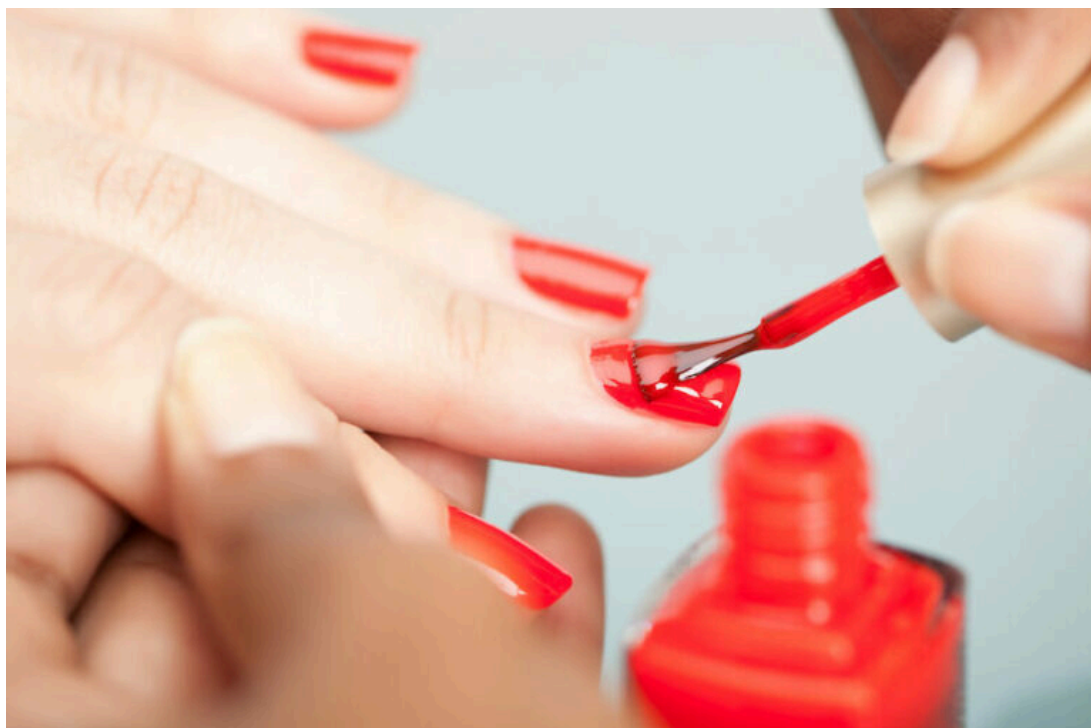
Resorcinol is commonly used in hair dyes and acne medication. In higher doses it is toxic and can disrupt the function of the central nervous system and lead to respiratory problems. It has also been shown to disrupt the endocrine system, specifically thyroid function.



[\(https://www.safecosmetics.org/chemicals/talc/\)](https://www.safecosmetics.org/chemicals/talc/).

**Talc (<https://www.safecosmetics.org/chemicals/talc/>)**

Some talc may contain the known carcinogen asbestos, therefore it should be avoided in powders and other personal care products, unless it is known to be asbestos-free. Even asbestos-free talc should be avoided in the pelvic areas.



(<https://www.safecosmetics.org/chemicals/toluene/>)

**Toluene (<https://www.safecosmetics.org/chemicals/toluene/>)**

Toluene is a toxic chemical used in in nail products and hair dyes. Exposure to toluene can result in temporary effects such as headaches, dizziness and cracked skin, as well as more serious effects such as reproductive damage and respiratory complications.

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