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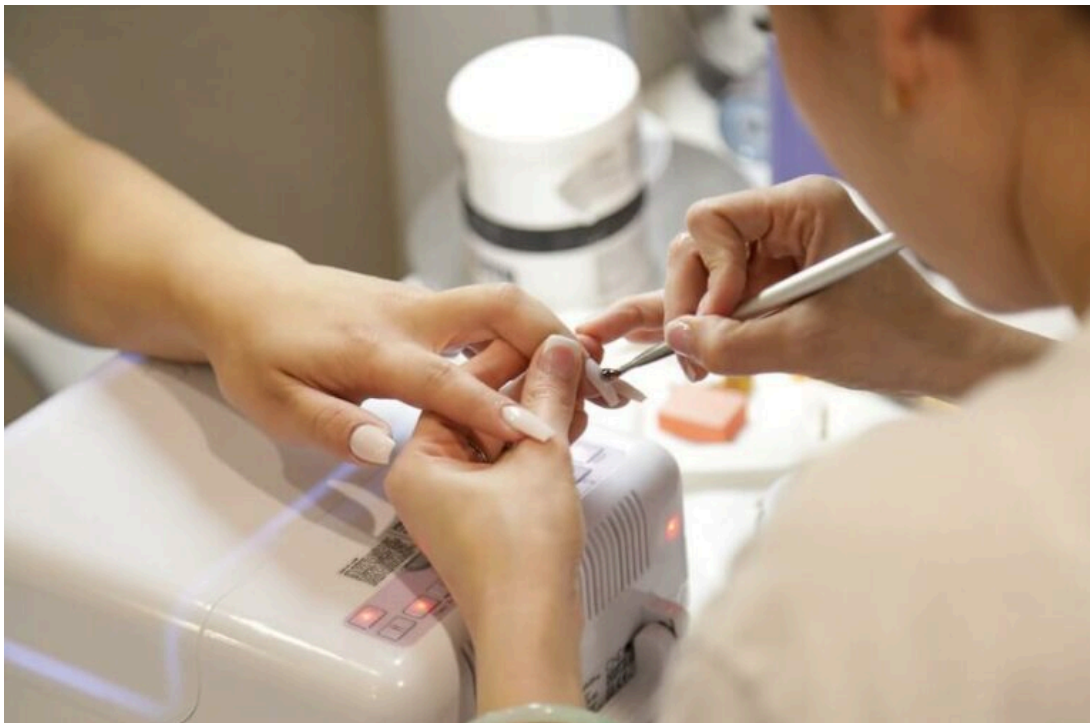
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> Organ-System Toxicity

Health Effect: Organ-System Toxicity

About Organ-System Toxicity

Many chemicals in personal care products can affect the development and ongoing functions of organs including brain, kidney, liver, skin and reproductive organs. Exposures to some chemicals, like the endocrine disrupting compounds (EDCs), have especially negative long-term consequences to developing organs, while other chemicals like formaldehyde and the heavy metals, can be toxic throughout life, causing damage to both immature and mature organ structures.

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.



[\(https://www.safecosmetics.org/chemicals/benzophenone/\)](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).^{[1][2]} These chemicals are linked to cancer, endocrine disruption, and organ system toxicity.



[\(https://www.safecosmetics.org/chemicals/butylated-compounds/\)](https://www.safecosmetics.org/chemicals/butylated-compounds/)

Butylated Compounds (<https://www.safecosmetics.org/chemicals/butylated-compounds/>)

Butylated hydroxyanisole (BHA) and butylated hydroxytoluene (BHT) are used as preservatives in a variety of personal care products. Both of these chemicals are also used as preservatives in foods. These chemicals are linked to several health concerns including endocrine disruption and organ-system toxicity.



[\(https://www.safecosmetics.org/chemicals/carbon-black/\)](https://www.safecosmetics.org/chemicals/carbon-black/)

Carbon Black (<https://www.safecosmetics.org/chemicals/carbon-black/>)

Carbon black is a dark black powder used as a pigment in cosmetics such as eyeliner, mascara and lipstick.^[1] It is produced by incomplete combustion of carbon-based products such as coal tar,^[2] and has been linked to increased incidence of cancer and negative effects on organs.^[3]



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

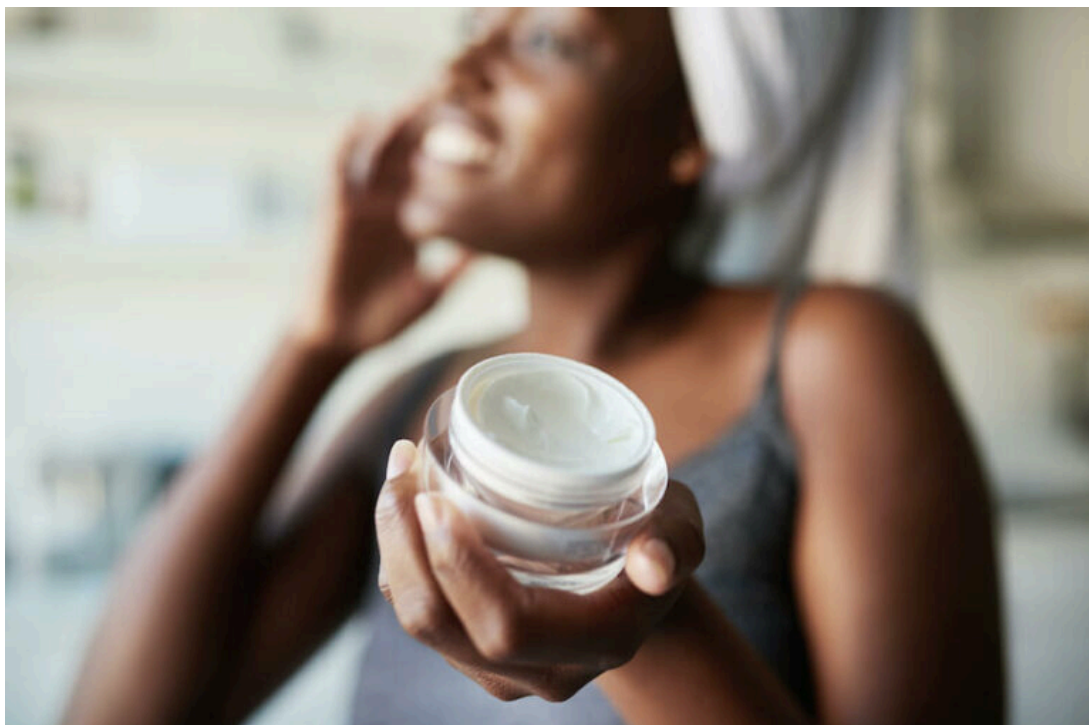


(<https://www.safecosmetics.org/chemicals/ethanolamine-compounds/>).

Ethanolamine Compounds (MEA, DEA, TEA And Others)

(<https://www.safecosmetics.org/chemicals/ethanolamine-compounds/>)

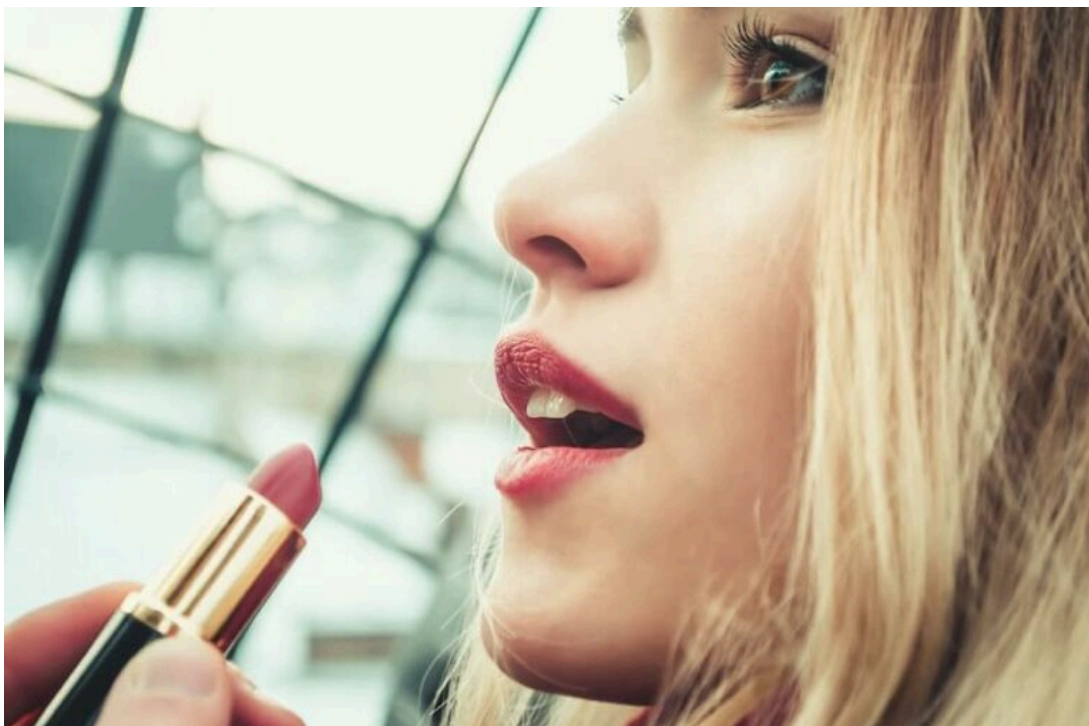
Ethanolamines are present in many consumer products ranging from cosmetics, personal care products and household cleaning products. Both have been linked to liver tumors. The European Commission prohibits diethanolamine (DEA) in cosmetics, to reduce contamination from carcinogenic nitrosamines. ^[1]



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

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

Hydroquinone is most commonly used in skin lighteners, products heavily marketed towards women of color. It is linked to cancer and organ-system toxicity.



(<https://www.safecosmetics.org/chemicals/lead-and-other-heavy-metals/>).

Lead And Other Heavy Metals (<https://www.safecosmetics.org/chemicals/lead->

and-other-heavy-metals/)

Heavy metals like lead, arsenic, mercury, aluminum, zinc, chromium and iron are found in a wide variety of personal care products including lipstick, whitening toothpaste, eyeliner and nail color.



(<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,^[1] allergic reactions, and possible neurotoxicity.^[2]



(<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/nanomaterials/>).

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

Insoluble nanoparticles in cosmetic products are essentially used as UV-filters or preservatives. Nanoparticles alter properties of cosmetic products including color, transparency, solubility and chemical reactivity.^[4]

It is unclear to what extent insoluble nanoparticles are used in cosmetic products.



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

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

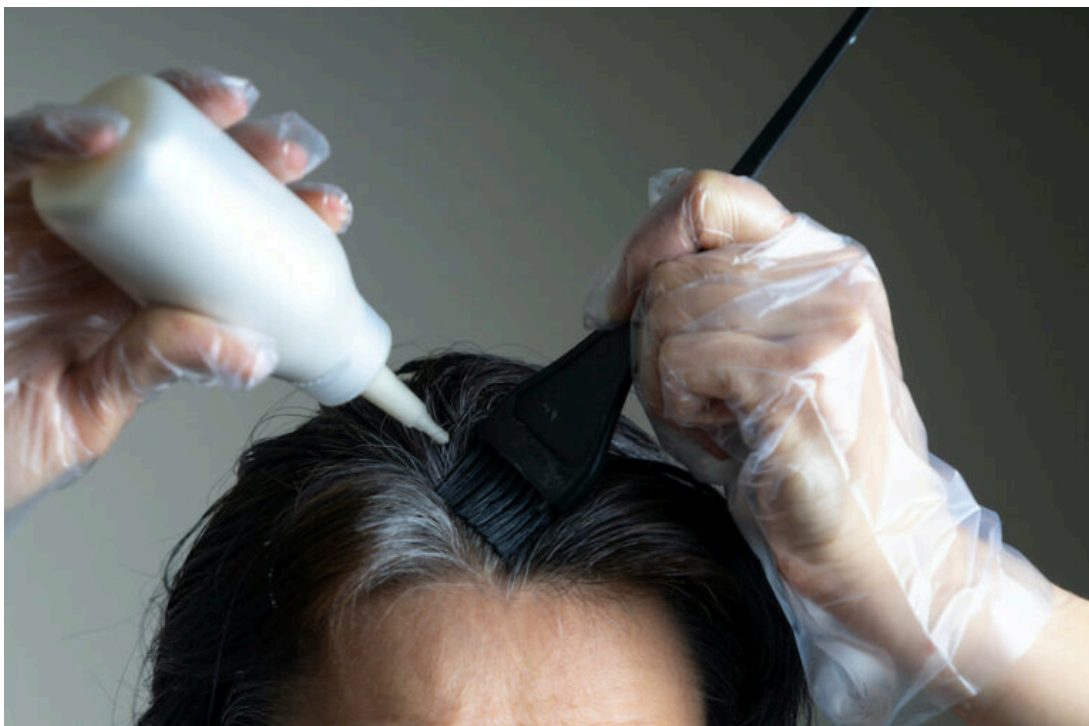
Nitrosamines are impurities that can show up in a wide array of cosmetics ingredients—including diethanolamine (DEA) and triethanolamine (TEA)—and products.



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

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

Octinoxate, also called Octyl methoxycinnamate or (OMC), is a UV filter. It can be absorbed rapidly through skin.



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

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

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/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.



[\(https://www.safecosmetics.org/chemicals/synthetic-musks/\)](https://www.safecosmetics.org/chemicals/synthetic-musks/)

Synthetic Musks (<https://www.safecosmetics.org/chemicals/synthetic-musks/>)

Synthetic musks are chemicals used in personal care product fragrances. They are rarely listed on the label, since fragrance ingredients are often not disclosed.



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