

The Top 8 Toxic Chemicals to Watch Out For in Your Skin Care Products



Today in Europe, 1,328 chemical ingredients are banned from use in cosmetic products due to their potential links to genetic mutations, carcinogenesis, congenital disabilities, and harm to the reproductive and endocrine systems. In a precautionary approach to protect its citizens, Canada also has a comparably exhaustive list of prohibited cosmetic chemicals deemed too toxic for safe use.

In America — the number of restricted toxic chemicals in cosmetics is only 11.

(<https://www.fda.gov/cosmetics/cosmetics-laws-regulations/prohibited-restricted-ingredients-cosmetics#prohibited>)

According to the Food and Drug Administration (FDA) (<https://www.fda.gov/cosmetics/cosmetics-laws-regulations/prohibited-restricted-ingredients-cosmetics#prohibited>), only 11 chemicals have been banned, leaving consumers with the responsibility to not only educate themselves on what's in their cosmetics but also to understand the potentially harmful effects to their health.

Cosmetics Defined

When we hear the term cosmetics, we often think of makeup like foundation or lipstick. While it's true that makeup is considered a cosmetic, the FDA defines (<https://www.fda.gov/cosmetics/cosmetics-laws-regulations/cosmetics-us-law>) this broad term as any article introduced to and applied to the human body for

cleansing, beautifying, and promoting an attractive appearance.

With our skin roughly accounting for 16% (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3709783/>) of our body mass, what we put on our body's largest detoxification organ may matter the most, as the skin absorbs what is slathered onto us.

A recently published survey (<https://www.statista.com/topics/4517/us-skin-care-market/#:~:text=In%20a%202017%20survey%20among,never%20used%20skin%20care%20products.>) found that 52% of U.S. consumers use skincare products daily, with a contrasting 6% reported not to use any skincare products at all. This indicates that up to 94% of Americans may be using skincare products without realizing the potentially toxic chemicals in their cosmetics.

Let's spend time learning a little about the top eight toxic ingredients to avoid in your cosmetics and why.

Top 8 Toxic Chemicals in Cosmetics To Avoid



1. Parabens

Commonly used as a preservative to deter bacterial and mold growth, parabens are likely the most well known toxic chemical in cosmetic products.

A study published in Toxicology

(<https://www.sciencedirect.com/science/article/abs/pii/S0300483X07000340>) in April 2007 reported that parabens could elevate estrogen levels through inhibiting estrogen sulfotransferases (SULTs) in the skin. One form of parabens, butylparaben, is thought to be the most potent blocking agent. Endometriosis, abnormal menstruation, fibroids, mood disorders, and weight gain are associated with elevated estrogen levels.

While it hasn't been proven that parabens are carcinogenic in humans, a British study (<https://onlinelibrary.wiley.com/doi/abs/10.1002/jat.958>) did find traces of five different parabens in the breast tissue of 95% of the women studied. This study indicates that parabens penetrate the skin and set up residence in tissue, potentially disrupting hormone function and promoting tumor growth.

Found in: Shampoos, facial cleansers, makeup, deodorant

Labeled as: Methylparaben, butylparaben, ethylparaben, propylparaben, isobutylparaben

2. Formaldehyde

Another preservative added to many skincare cosmetics to preserve shelf life is formaldehyde, a carcinogen known to disrupt the hormonal and endocrine system. It can also trigger skin and respiratory allergies upon entering the body through the skin or inhalation, especially for chemically sensitive people.

A review published in Mutation Research

(<https://www.sciencedirect.com/science/article/pii/S1383574211000548?via%3Dihub>) in December 2011 found a strong association between formaldehyde and reproductive toxicity, potentially impacting children's development. Given formaldehyde's widespread exposure among the most vulnerable population — women of reproductive age and their children — a potential threat to health remains with continued and chronic use.

Found in: Shampoos, soaps, body wash, nail polish

Labeled as: Benzylhemiformal, diazolidinyl urea, DMDM hydantoin, imidzaolidinyl urea, quaternium-15, sodium hydroxymethylglycinate, formaldehyde resin

3. Triclosan

Used for reducing bacterial contamination, triclosan was banned (<https://www.fda.gov/news-events/press-announcements/fda-issues-final-rule-safety-and-effectiveness-antibacterial-soaps>) from antibacterial soap by the FDA in 2016. While that sounds reassuring, triclosan is still generously used in hand sanitizers and other skincare products. Given the copious amounts of hand sanitizing requirements in the COVID-19 era, this is one crucial ingredient to steer clear of as it is linked (<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0154758>) to hormone and thyroid disruption.

Found in: Deodorant, liquid soap, antibacterial hand sanitizer gel, shaving cream, and more

Labeled as: Triclosan, triclocarban

4. Phthalates

According to the CDC (https://www.cdc.gov/biomonitoring/Phthalates_FactSheet.html), this plasticizer, commonly used as a hardening and flexible agent in nail polish and other skincare products, may harm both genders' reproductive systems.

In the Fourth National Report on Human Exposure to Environmental Chemicals (<https://www.cdc.gov/exposurereport/>), 13 phthalate metabolites were found in participant urine samples aged six and older, with women showing the highest levels. This highly toxic substance is readily absorbed through the skin, even the nails, potentially leading to reproductive damage affecting fertility.

Found in: Shampoos, soaps, body wash, nail polish

Labeled as: dibutyl phthalate (DBP), di-2-Ethylhexyl phthalate (DEHP), diethyl phthalate (DEP)



5. Fragrance

As one of the only toxic chemicals in cosmetics that we can identify and understand, it's not only rendered harmless by most but often welcomed in beauty products. What seems like a pleasant addition to your favorite skincare product is actually a chemical cocktail, including up to 3,059 potential chemicals, according to The International Fragrance Association (IFRA) (<http://www.ifraorg.org/en-us/ingredients#.VW-Cdc-6eUk>).

Skin irritant, at best, and endocrine disruptor, at worst — this label provides a loophole for many potentially toxic chemicals to sneak into your body. Because the term broadly covers anything from artificial scents to colors, researching the fragrant source before purchasing is ideal, or opt for unscented and natural skincare items.

Found in: Shampoo, conditioner, body wash, soaps, deodorant, lotion, and more

Labeled as: Fragrance, parfum

6. Coal Tar

Coal tar — a byproduct from coal processing, including a mixture of toxic chemicals such as benzene, naphthalene, toluene, and more — has been found to promote and initiate tumor activity, according to the Report on Carcinogens, Fourteenth Edition (<https://ntp.niehs.nih.gov/ntp/roc/content/profiles/coaltars.pdf>).

Polycyclic aromatic hydrocarbons (PAHs), one of the components in coal tar, can damage DNA, leading to non-cancerous reproductive and developmental toxicities.

Found in: Anti-dandruff and anti-psoriasis shampoo, anti-itch and eczema creams, some hair dyes

Labeled as: Coal, tar, carbo-cort, KC 261, naphtha distillate, benzin B70, petroleum benzin

7. Sodium Lauryl Sulfate (SLS)

Sulfates are used as a foaming detergent in many skincare and cosmetic products. If your beauty or bath product creates suds, there is a high chance that SLS is the foam-inducing ingredient.

While there is no evidence directly linking SLS to reproductive or developmental issues, the main concern is potential contamination with 1,4 dioxane. This contaminant can be avoided through vacuum stripping, but ensuring skincare product manufacturers are doing this is not mandated.

Found in: Shampoo, toothpaste, body wash, liquid soaps, detergents, baby products, more.

Labeled as: Sodium lauryl sulfate (SLS), sodium Laureth sulfate (SLES)

8. 1,4 Dioxane

The Environmental Protection Agency (EPA) reports (https://www.epa.gov/sites/production/files/2014-03/documents/ffrro_factsheet_contaminant_14-dioxane_january2014_final.pdf) 1,4 dioxane as a likely human carcinogen found in groundwater throughout the United States. This compound has been stated (<https://www.fda.gov/cosmetics/potential-contaminants-cosmetics/14-dioxane-cosmetics-manufacturing-byproduct>) as a trace contaminant in cosmetics by the FDA.

Because of its status as a “trace” contaminant, you won’t find 1,4 dioxane or any of its other names listed as an ingredient on your favorite cosmetics and skincare products. However, cosmetics can still use this toxic compound in small amounts. This compound linked to organ toxicity has been detected in about 22% of over 25,000 products, mainly as a foaming agent in bath products. Found in: Shampoo, face wash, baby products

Other names: dioxane, dioxan, p-dioxane, diethylene dioxide, diethylene oxide, more

Labeled as: Sodium laureth sulfate, PEG compounds

The Takeaway

With a mountainous list of chemical ingredients banned from popular skincare products in countries like Europe and Canada — yet, not in the U.S. — the warning list of toxic chemicals inhabiting American beauty aisles would be far too long for one article. Educate yourself further by visiting Campaign for Safe Cosmetics (<http://www.safecosmetics.org/>), which compiles scientifically supported information on this extensive list of chemicals to watch out for and tips for purchasing clean beauty and cosmetic products.