60 TOXIC SUBSTANCES IN COSMETICS AND PERSONAL CARE PRODUCTS

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Harmful substances in cosmetics and personal care products are unfortunately plentiful. While this list has the most common toxic substances, it is not comprehensive.

TERMS TO KNOW:

**Persistent:** does not break down easily in the environment.

**Bioaccumulative:** builds up in our bodies over time.

**Carcinogen:** a chemical that increases the risk of cancer.

**Endocrine Disruptor:** a chemical that even at a very tiny dose may interfere with the body’s endocrine system and produce adverse developmental, reproductive, neurological, and immune effects.

1. **1,4-DIOXANE:** a carcinogen, a kidney toxicant, neurotoxicant, and respiratory toxicant; pollutes drinking water, air, and soil; a by-product of ethoxylation process. It is identifiable by the prefix PEG and PPG or designations “eth” such as “myreth,” “oleth,” “laureth,” “ceteareth;” often there is a number in the name of the surfactant, which indicates the length of a chain.

2. **2-BROMO-2-NITROPROPANE-1,3-DIOL:** a formaldehyde-releasing preservative (see FORMALDEHYDE), may break down into nitrosamines (see NITROSAMINES) in a product; gastrointestinal, immune system, skin, and liver toxicant.

3. **ACRYLAMIDE:** a carcinogenic impurity of polyacrylamide, polyquaternium-7, polyacrylic acid.

4. **ALCOHOL, DENATURED:** ethyl alcohol (ethanol) with a denaturing agent making it poisonous to drink; carcinogenic, toxic, may cause birth defects.

5. **ALUMINUM** (e.g. Aluminum Chloride, Aluminum Chlorohydrate, Aluminum Zirconium Tetrachlorohydrex GLY, Aluminum Zirconium Trichlorohydrex GLY); used in antiperspirants; linked with Alzheimer’s and breast cancer.

6. **AMINOMETHYL PROpanol:** a skin, eye, and lung irritant; may
break down into carcinogenic nitrosamines (see NITROSAMINES).

7. **AMMONIUM LAURETH SULFATE**: may be contaminated with carcinogenic ethylene oxide (see ETHYLENE OXIDE) and 1,4-dioxane (see 1,4-DIOXANE).

8. **BENZENE**: a known human carcinogen, banned in European Union and Canada, an impurity of toluene (see TOLUENE).

9. **BENZO[A]PYRENE**: a carcinogen, hormone disruptor; is persistent and bioaccumulative; may be an impurity of hydrogenated palm oil, hydrogenated palm kernel oil, and coal tar.

10. **BENZYL ALCOHOL**: often synthetically created; may cause contact allergy; subject to concentration or use limitations.

11. **BHT (BUTYLATED HYDROXYTOLUENE)**: a fragrance or masking ingredient; skin, eye, and lung irritant; immune system toxicant.

12. **BUTYLENE GLYCOL**: used as a solvent and conditioning agent; a skin, eye, and lung irritant.

13. **CETEARETH-20**: an emulsifying agent; may be contaminated with carcinogenic ethylene oxide (see ETHYLENE OXIDE) and 1,4-dioxane (see 1,4-DIOXANE).

14. **CETETH-20**: a cleansing and solubilizing agent; may be contaminated with carcinogenic ethylene oxide (see ETHYLENE OXIDE) and 1,4-dioxane (see 1,4-DIOXANE).

15. **CHLOROFORM**: banned in cosmetics in the US, European Union, and Canada; carcinogenic; persistent and bioaccumulative; a possible impurity of triclosan (see TRICLOSAN).

16. **CITRUS GRANDIS (GRAPEFRUIT) SEED EXTRACT**: may be contaminated with triclosan (see TRICLOSAN) and methylparaben (see PARABENS).

17. **COAL TAR**: an antidiandruff agent, a cosmetic biocide, a denaturant; obtained as a by-product in the destructive distillation of coal; a
known carcinogen; banned in European Union and Canada; may be contaminated with benzo[a]pyrene, another carcinogen.

18. **Cocamide DEA**: a chemically modified form of coconut oil, a foaming agent; carcinogen; may break down into Nitrosamines (see Nitrosamines).

19. **Cocamidopropyl Betaine**: a synthetic surfactant; a contact allergen; may break down into Nitrosamines (see Nitrosamines).

20. **Colorants**: FD&C and D&C colors are coal tar derivatives, tested on animals due to their carcinogenic properties.

21. **Diazolidinyl Urea**: a formaldehyde-releasing preservative (see Formaldehyde).

22. **Dibutyl Phthalates (DBP)**: used in nail polish or a part of “fragrance”; a reproductive and developmental toxicant; banned in European Union; endocrine disruptor; increases risk of birth defects and infertility.

23. **Dioxins**: a carcinogenic impurity of triclosan and chlorine bleach; a hormone disruptor; persistent and bioaccumulative; a priority pollutant on the EPA Clean Water Act list.

24. **Disodium Laureth Sulfosuccinate**: a foam booster; may be contaminated with ethylene oxide (see Ethylene Oxide) and 1,4-dioxane (see 1,4-Dioxane).

25. **DMDM Hydantoin**: a formaldehyde-releasing preservative (see Formaldehyde).

26. **Ethylene Oxide**: a known human carcinogen; banned in Canada and European Union; EWG rates it 10 on a scale from 0 to 10 (10 being the most harmful); associated with cancer, reproductive effects, mutagenic changes, neurotoxicity, and sensitization; not an ingredient but a contaminant of ingredients such as Polysorbate-20, Sodium Laureth Sulfate, PEG-100 Stearate, Ceteareth-20, Ceteth-20, Polysorbate-60, Laureth-7, PEG-40 Hydrogenated Castor Oil, Steareth-21 and others.
27. **Ferric Ammonium Ferrocyanide**: a synthetic colorant; restricted by FDA, an environmental toxin.

28. **Formaldehyde**: a carcinogenic impurity released by cosmetic preservatives, such as Diazolidinyl Urea, Imidazolidinyl Urea, DMDM Hydantoin, Quaternium-15, 2-Bromo-2-Nitropropane-1,3-Diol, and others; may cause dermatitis; banned in Japan and Sweden; in the U.S., 20% of cosmetics and personal care products contain a formaldehyde-releaser.

29. **Fragrance**: an undisclosed mixture of various scent chemicals and ingredients containing allergens and hormone-disrupting phthalates.

30. **Hydrogenated Palm Oil**: a skin conditioning agent; may be contaminated with benzo[a]pyrene (see Benz[a]pyrene).

31. **Hydroquinone**: a skin bleaching agent, a hair colorant; banned in European Union and Canada; may cause a bluish black discoloration of certain tissues; a skin and respiratory organ toxicity; an allergen; may also be an impurity found in “tocophe” group of chemicals (e.g. Tocopheryl Acetate).

32. **Imidazolidinyl Urea**: a formaldehyde-releasing preservative (see Formaldehyde).

33. **Lauramide DEA**: a foam booster; may break down into Nitrosamines (see Nitrosamines).

34. **Lead**: may be a contaminant in petroleum- or mineral-based dyes; persistent and bioaccumulative; neurotoxic; endocrine disruptor; increases risk of birth defects.

35. **Methylisothiazolinone**: a preservative causing allergic reactions; a pesticide; skin, lung, and eye irritant; may be neurotoxic; restricted in Canada and Japan.

36. **Nitromethane**: an anticorrosive agent found in aerosol hair sprays; a carcinogen; persistent and bioaccumulative.

37. **Nitrosamines**: this is not an ingredient, but a carcinogenic
contaminant; they are unregulated in the U.S., so there are no repercussions for U.S. manufacturers contaminating their products with nitrosamines; very common, nearly every kind of personal care product and cosmetic can contain nitrosamines as various compounds break down over time and recombine into nitrosamines.

38. **OLEAMIDE DEA**: a foam booster; may be contaminated with Nitrosamines (see NITROSAMINES).

39. **PAHs**: a group of chemicals occurring naturally in coal, crude oil, and gasoline; carcinogenic; banned in the European Union and Canada.

40. **PARABENS** (METHYLPARABEN, PROPYLPARABEN, ETHYLPARABEN, BUTYLPARABEN, ISOPROPYLPARABEN): hormone disruptors; found in 99% of breast cancer tumors.

41. **PETROLATUM (PETROLIUM JELLY)**: a semisolid mixture of hydrocarbons obtained from petroleum; may be contaminated with PAHs (see PAHs)

42. **PHENACETIN**: used as a fever-reducing drug but banned for use in drugs in 1983; stabilizing function in cosmetics; a known carcinogen.

43. **PHENOLPHTHALEIN**: used in hair relaxers, shampoos and conditioners; a carcinogen; a hormone disruptor.

44. **PHENONIP**: a mix of preservatives Phenoxyethanol (see PHENOXYETHANOL), Methylparaben (see PARABENS), Ethylparaben (see PARABENS), Butylparaben (see PARABENS), Propylparaben (see PARABENS), and Isobutylparaben (see PARABENS).

45. **PHENOXYETHANOL**: a preservative; restricted in Japan; in European Union considered harmful only for products used on the lips and around the mouth; skin, eye, lung irritant.

46. **PHTHALATES**: help fragrance last longer; endocrine disruptors; DEHP phthalate is a probable carcinogen.

47. **PLACENTA ENZYMES**: derived from the uterus of slaughtered animals; widely used in skin creams, shampoos, and masks; may be contaminated with progesterone and estrogen.
48. **POLYSORBATE-20**: a surfactant and emulsifier used in cleaners and personal care products; may be contaminated with carcinogenic Ethylene Oxide (see ETHYLENE OXIDE) and 1,4-Dioxane (see 1,4-DIOXANE).

49. **PROPYLENE GLYCOL**: an organic alcohol commonly used as a skin conditioning agent; may cause allergic contact dermatitis and itchiness; irritation may happen at propylene glycol concentrations as low as 2%.

50. **QUATERNIUM-15**: a formaldehyde-releasing preservative (see FORMALDEHYDE); skin, eye, and lung irritant.

51. **RETINYL PALMITATE (VITAMIN A PALMITATE)**: a synthetic vitamin A; used in sunscreens; according to FDA studies, when applied to the skin in the presence of sunlight, may speed the development of skin tumors and lesions.

52. **SELENIUM SULFIDE**: an antidandruff and hair conditioning agent; banned in European Union and Japan; a carcinogen; persistent and bioaccumulative.

53. **SODIUM HYDROXYLMETHYLGLYCINATE**: a formaldehyde-releasing preservative (see FORMALDEHYDE).

54. **SODIUM LAURETH SULFATE (SLSE)**: an emulsifying and foaming agent; may be contaminated with carcinogenic Ethylene Oxide (see ETHYLENE OXIDE) and 1,4-Dioxane (see 1,4-DIOXANE).

55. **SODIUM LAUROYL SARCOSINATE**: a foaming agent, a skin and hair conditioning agent; restricted in cosmetics in Japan; can break down into Nitrosamines (see NITROSAMINES).

56. **SODIUM LAURYL SULFATE (SLS)**: an emulsifying and foaming agent; an eye, skin (eczema), and lung irritant.

57. **SODIUM PCA**: a skin and hair conditioning agent; can break down into Nitrosamines (see NITROSAMINES).
58. **TALC**: may be contaminated with asbestos fibers causing respiratory toxicity and cancer; even asbestos-free talc is still toxic and carcinogenic.

59. **TOLUENE**: a petrochemical solvent and paint thinner; in cosmetics used in nail polish; an endocrine disruptor; may cause damage to fetus.

60. **TRICLOSAN**: an antibacterial agent and preservative in personal care and home-cleaning products; persistent and bioaccumulative; an endocrine disruptor; a skin, lung, and eyes irritant; may be contaminated with chloroform (see CHLOROFORM) and dioxins (see DIOXINS).

*The list of harmful ingredients in cosmetics and personal care products is based on information from the Skin Deep database by the Environmental Working Group (EWG).*