

Toxic chemicals in toiletries



Did you know that every time you shower, wash your hair, apply deodorant or face cream, you are exposing yourself to potential cancer causing and hormone disrupting toxic chemicals? They are found in most cosmetics, household cleaners, shampoo, sunscreen, bubble bath, toothpaste, mouthwash, hair spray, moisturiser, body lotions and deodorants.

The toxic chemicals cocktail in the air we breathe, the food we eat and our personal care toiletries and cosmetics may be contributing to the spiralling rate of cancer and metabolic disease. Most of the chemicals which go into our toiletries are no

different from the harsh toxic chemicals used in industry. Far from enhancing health they pose a daily threat to it.

It doesn't matter how much you pay for the product, unless they state otherwise, all the well-known commercial brands of toiletries and cosmetics ingredients lists read like a mad professor's chemistry lab concoction. When consumers vote with their wallets and start seeking out chemical-free or low-chemical products, the industry will follow suit and legislation, always the last to keep up with public concern, will take appropriate steps to protect us.

What to watch out for

- **Alcohol, or isopropyl.** A poisonous solvent and denaturant (altering the structure of other chemicals). Found in hair colour rinses, body rubs, hand lotions, after shave lotions, fragrances. Can cause nausea, vomiting headaches, flushing, depression. Also dries skin and hair, creates cracks and fissures in the skin which encourage bacterial growth.
- **Alpha Hydroxy Acid.** An organic acid produced by anaerobic respiration. Skin care products containing AHA exfoliate that removes the outer layer of skin, exposing the younger skin below. This results in harsh aging of the immature skin by environmental agents. Long term skin damage may result from its use.
- **Aluminium.** A metallic element used extensively in the manufacture of aircraft components, prosthetic devices and as an ingredient in antiperspirants, antacids and antiseptics. Aluminium has been linked to Alzheimer's disease and the use of anti-perspirants containing aluminium has been linked with breast cancer.
- **Cocamide and lauramide diethanolamine (DEA, MEA, TEA)** are almost always in products that foam: bubble bath, body washes, shampoos, soaps and facial cleansers. They are used to thicken, wet, alkalis and clean. DEA and TEA can form a chemical reaction with sodium nitrite (which is used as a preservative in raw materials or present as an environmental contaminant and not disclosed on cosmetic labels). In this reaction, these chemicals' amines combine with nitrites to form nitrosamines, which are carcinogenic. Thirty five percent of TEA applied topically can enter the bloodstream. Products such as sun tan lotions that are left on the skin for extended duration of time produce the greatest absorption.

A person consuming sodium nitrite-preserved bacon is exposed to less than one microgram of nitrosamine while someone using a nitrosamine-contaminated cosmetic would be applying 50 to 100 micrograms of nitrosamine to the skin each time the product is used. As well as cancer, prolonged exposure can alter liver and kidney function, and lead to asthma and pulmonary disease.

- **Collagen** is an insoluble fibrous protein that is too large to penetrate the skin. The collagen found in most skin care products is derived from animal skins and ground up chicken feet. This ingredient forms a layer of film that may suffocate the skin.



- **Fragrance** is present in most deodorants, shampoos, sunscreens, skin care, body care and baby care products and is usually petroleum based. Many of the compounds in fragrances are carcinogenic or otherwise toxic. Fragrance on a label can indicate the presence of up to 4,000 separate ingredients, most or all of them are synthetic. Symptoms reported to the FDA have included headaches, dizziness, rashes, skin discoloration, violent coughing and vomiting, and allergic skin irritation. Exposure to fragrances can affect the central nervous system, causing depression, hyperactivity, irritability, inability to cope, and other behavioural changes.'
- **Glycerin** is a syrupy liquid that is chemically produced by combining water and fat. Glycerin is used as a solvent and plasticiser. Unless the humidity of air is over 65%, glycerin draws moisture from the lower layers of the skin and holds it on the surface, which dries the skin from the inside out. It ages the skin and can cause dry, poor quality complexion.
- **Imidazolidinyl urea and DMDM hydantoin.** These are two of the many preservatives that release formaldehyde (formaldehyde-donors). According to the Mayo Clinic, formaldehyde can irritate the respiratory system, cause skin reactions and trigger heart palpitations. Exposure to formaldehyde may cause joint pain, allergies, depression, headaches, chest pains, ear infections, chronic fatigue, dizziness and loss of sleep. It can also aggravate coughs and colds and trigger asthma. Serious side effects include weakening of the immune system and cancer. Nearly all brands of skin, body and hair care, antiperspirants and nail polish found in stores contain formaldehyde-releasing ingredients.
- **Isopropyl**, an alcohol used in hair rinses, hand lotions and fragrances, is also a solvent found in shellac (Web definition of shellac: Alcohol-soluble, clear to orange-coloured resin derived from lac. {Lac is a substance secreted by insects on tree branches, mainly in India.} Used as a sealer and clear finish for floors, for sealing knots, and in "alcohol-based" primers. Thinner is denatured alcohol.)
- **Lye** is a highly concentrated watery solution of sodium hydroxide or potassium hydroxide. Lye is combined with animal fats to make bars of soap, which may corrode and dry out the skin.
- **Nitrites** get into personal care products in several ways. They can be added as anticorrosive agents, they can be released as a result of the degradation of other chemicals, specifically 2-nitro-1,3-propanediol (BNDP), or they can be present as contaminants in raw materials. Ingredients such as formaldehyde or formaldehyde-forming chemicals, or 2-bromo-2-nitropropane (also known as Bronopol) which can break down into formaldehyde.... can also produce nitrosamines.
- **Padimate-O** also known as octyl dimethyl, PABA is found mostly in sunscreens. Like DEA, a nitrosamine-forming agent. There is concern that the energy absorbed by this sunscreen is then turned into free radicals, which may actually increase the risk of skin cancer!
- **Parabens (methyl, propyl, butyl and ethyl paraben)**, are preservatives added to personal care products for extending shelf life and to inhibit microbial growth. Parabens (particularly butyl parabens) are endocrine disruptors, meaning that they alter hormone levels. Because they are oestrogen mimics, they can unnaturally raise oestrogen levels leading to breast cancer and reproductive problems including reduced fertility.
- **Petrolatum**, also known as mineral oil jelly, liquid vaseline, paraffinum, liquidum and baby oil. Baby oil is 100% mineral oil. This commonly used petroleum ingredient coats the skin just like plastic wrap. The skin's natural immune barrier is disrupted as this plastic coating inhibits its ability to breathe and absorb moisture and nutrition. The skin's ability to release toxins is impeded which can promote acne and other disorders. This process slows down skin function and normal cell development causing the skin to prematurely age. Can cause photosensitivity
- **Propylene glycol (PG) and Polyethylene glycol (PEG)** PG is a wetting agent and solvent used in make up, hair care products, deodorants and after shave. Its also the main ingredient in antifreeze and brake fluid. Polyethylene glycol (PEG), a related agent found in most skin cleansers, is a caustic used to dissolve grease, the same substance you find in oven cleaners. PEG compounds often contain small amounts of ethylene oxide which increases the incidences of uterine and breast cancers and of leukaemia and brain cancer. Other cancers related to potential ethylene oxide exposure include oesophageal cancer, stomach cancer, pancreatic cancer, bladder cancer, brain and central nervous system cancer, neoplasms of lymphatic and hematopoietic tissue, and Hodgkin's disease. PEG is found in some medications. Read the label carefully!



- **PEG** compounds contain polycyclic aromatic compounds, and are routinely contaminated with the carcinogen 1,4-dioxane, both substances are linked to human cancers, including uterine and breast cancer.
- **PVP/VA copolymer**, a petroleum based ingredient used in hair sprays.
- **Sodium fluoride.** Fluoride is found in toothpaste and other dental products and is added to water supplies in some countries. Fluoride is highly toxic waste from industrial processes and is used in rat and cockroach poison, in glass etching, fire extinguishers and solvents. Fluoride speeds up the ageing process by interfering directly with DNA. It's been linked with bone cancer and Alzheimer's disease was unheard of before fluoride entered the food chain.
- **Sodium lauryl sulfate (SLS)** is possibly the most dangerous of all ingredients in personal care products. SLS is a harsh detergent commonly used as an engine degreaser. Found in shampoos, hair conditioners, toothpaste, body washes, liquid soaps, SLS can cause eye irritation, permanent damage to the eyes, especially in children, skin rashes, hair loss, flaking skin and mouth ulceration. When combined with other ingredients, it can form nitrosamines, which are carcinogenic. SLS easily penetrate the skin and can lodge in the heart, lungs, kidneys, liver and brain and can stay in the body for up to five days
- **Synthetic colours:** coal-tar dyes are generally labelled as FD7C or D4C followed by a number. They are carcinogenic.
- **Talc**, found in baby powders, face powders and body powders as well as on some contraceptives such as condoms. A known carcinogen. A major cause of ovarian cancer when used in the genital area. Can also lodge in the lungs, causing respiratory disorders.

The long shelf life of most toiletries also increases the risk of creating a carcinogenic reaction. Stored for a long time at elevated temperatures, nitrates will continue to form in a product, accelerated by the presence of other chemicals, such as formaldehyde, paraformaldehyde, thiocyanate, nitrophenols and certain metal salts.

Inadequate and confusing labelling means that consumers may never know which products are most likely to be contaminated. However, in a recent Food and Drug Administration (FDA) report, approximately 42% of all cosmetics were contaminated with NDEA, with shampoos having the highest concentrations.

In Europe, where more safeguards are in place regarding nitrosating agents, the picture is somewhat better. For instance, in Germany, after the Federal Health Office issued a request to eliminate all secondary amines (such as DEA) from cosmetics in 1987 a report confirmed that only 15 per cent of products tested were contaminated with NDEA.

Cancer-causing chemicals now found in baby shampoo

Sources: [Washington Post March 13, 2009](#) - [The Campaign for Safe Cosmetics March 12, 2009](#)

More than half of the baby shampoo, lotion and other infant care products analyzed by a health advocacy group, the Campaign for Safe Cosmetics, were found to contain trace amounts of chemicals that are believed to cause cancer. Some of the biggest names on the market, such as Johnson & Johnson Baby Shampoo and Baby Magic lotion, tested positive for 1,4-dioxane or formaldehyde, or both.

The chemicals, which the U.S. Environmental Protection Agency has characterized as probable carcinogens, are not intentionally added to the products, and are not listed among ingredients on labels. Instead, they are likely byproducts of the manufacturing process. Formaldehyde is created when other chemicals in the product break down over time, and 1,4-dioxane is formed when foaming agents are combined with ethylene oxide or similar petrochemicals.

The organization tested 48 baby bath products such as bubble bath and shampoo. Of those, 32 contained at least one of the chemicals, and 17 tested positive for both chemicals.

Japan and Sweden have banned formaldehyde from personal care products, and the European Union has banned 1,4-dioxane. They've even recalled products that were found to contain it. In the United States, meanwhile, there are no regulatory standards limiting formaldehyde, 1,4-dioxane or, for that matter, virtually any other toxic chemical in personal care products -- not even those for your children.



To avoid 1,4-dioxane, a byproduct that could easily be removed if manufacturers chose to do so, watch out for these ingredients:

- PEG-100 stearate
- Sodium laureth sulfate
- Polyethylene
- Cetareth-20

No matter what brand you choose, I suggest you scrutinize the labels on your personal care products and cosmetics just as closely as you do your food. If you're not sure what an ingredient is, type it into the Environmental Working Group's [Skin Deep Cosmetic Safety Database](#), and you'll get all the information you need about whether or not it's safe.

Dyeing or dying

If you use permanent or semi-permanent hair colours You are increasing your risk of developing cancer. Both animal and human studies show that the body rapidly absorbs chemicals in permanent and semi-permanent dyes through the skin during the more than 30 minutes that dyes remain on the scalp. A 1976 study reported that 87 of 100 breast cancer patients had been long-term dye users (NY State J Med, 1976; 76: 394-6).

The darker the shades of permanent and semi-permanent dyes, the higher the risks of breast cancer; women who use black, dark brown or red dyes are at the greatest risk!

Alternative solutions

It is possible to find toiletries that are completely free from toxic chemicals. Online there are many companies including Higher Nature and Neals Yard in the UK that sell chemical-free toiletries.

Beware: Be sure to check all ingredients, even when you have bought products from a health food store. For example, Weleda, a well trusted health food store brand, at time of writing was still using sodium laureth sulfate and parabens in their products.