

Dangers of Beauty Products

**Scientists warn of Harmful Ingredients In our Shampoos and Cosmetics.*

By David Lowell Kern

New health concerns are being raised over some common ingredients in hair shampoos, skin creams, toothpastes, and other personal care products. According to researchers in the United States, Germany, Switzerland, and Japan, these ingredients may be linked to premature baldness, cataract formation, environmental cancers, contact dermatitis, and possible eye damage in young children.

SLS and Eye Damage in Young Children

The greatest concern of many scientists is sodium lauryl sulfate, a detergent found in approximately 90% of commercial shampoos. Also known as **sodium dodecyl sulfate** (SDS), **sodium laureth sulfate** (SLES), and **sodium laurel sulfate** (SLS), this chemical has been shown to damage protein formation in eye tissue in young animals, raising serious concerns about the possibility of ocular tissue malformation and blindness in infants and young children. In animal studies, SLS penetration and uptake is much greater in neonatal and young animal eye tissue, compared to adult animals, and shows "penetration into the eye, as well as systemic tissues (brain, heart, liver, etc.)." SLS also showed long-term retention in tissues, up to five days after a single drop (1). Researcher Keith Green, Ph.D., ID. Sc., of the Medical College of Georgia, also reports that SLS extends the healing time of corneal tissue by a factor of five, from the normal 2 days to 10 days or more. He also expresses concerns about cataract formation from SLS. Writing for Research to Prevent Blindness, Inc., Dr. Green states in part: "There is an immediate concern relating to the penetration of these chemicals into the eye and other tissues. This is especially important in infants... exposure to SLS results in accumulation in eye tissues, a process that could retard healing as well as potentially have long term effects." Dr. Green concludes that exposure to sodium lauryl sulfate causes improper eye development in children, and that since SLS is absorbed systemically through the skin, it does not have to enter the eye directly.

Our own research has revealed that SLS is present as a main ingredient in most commercial shampoos. Furthermore, SLS is a main ingredient in most baby shampoos on the store shelves.

SLS Toxicity and Cancer

Another serious health concern with SLS is its tendency to react with other ingredients to form NDELA, a nitrosamine and potent carcinogen. According to a 1978 FDA report, shampooing the hair with a product contaminated with this nitrosamine can lead to its absorption into the body at levels much higher than eating nitrate-contaminated foods. (Researchers actually estimate the nitrate absorption from one shampoo is equal to eating a pound of bacon.) The FDA has recently warned shampoo manufacturers of unacceptable levels of dioxin formation in products containing SLES(dioxins are also dangerous carcinogenic compounds). Whether or not a particular bottle of shampoo is contaminated with these powerful carcinogenic compounds can only be determined through laboratory testing.

Damage to Your Skin

Researchers have known for years that SLS is a skin irritant. In fact, SLS is used as a laboratory standard for irritating skin and inducing contact dermatitis (2,3,4). SLS is useful in laboratory testing “because of its ability to penetrate and impair the skin barrier” (5). SLS damages skin barrier function,(6) enhances allergic response to other toxins and allergens,(7) damages and alters skin cells,(8) causes substantial roughness in the skin and results in severe modification of skin (9) recombinant structure(10).

SLS is listed as toxic to skin in many studies(11,12,13). In patients with seborrhea and eczema, SLS increases irritant reactions and susceptibility(14) SLS is indicated in the migration of Langerhans cells to regional lymph sites in contact dermatitis, explaining the inflammation of the lymph nodes in some cases. (A systemic response is clearly indicated.) Researchers have also reported that fair skin is more susceptible to SLS irritation, as is skin with existing eczema- even where the eczema is not local to the SLS contact (15).

Toxic Toothpaste

With the volumes of scientific information regarding the toxic, carcinogenic, and other harmful effects of sodium lauryl sulfate presented (we have listed only a fraction here), it should be clear that this chemical does not belong on the skin. Unfortunately, SLS is as common as it is dangerous. A review of commercial toothpastes revealed only one major brand that does not contain this ingredient (Sensodyne). All other toothpastes we reviewed have SLS as a major ingredient.

The health risk this represents can be easily understood when several factors are taken into account: the rapid uptake and systemic penetration of SLS, the long-term tissue retention in the heart, liver, and brain, and the fact that the gums are one of the quickest ways to introduce substances into the bloodstream, bypassing the digestive tract. The only thing that is difficult to understand is why this chemical is still used as an ingredient in any product designed for skin contact.

SLS and Premature Hair Loss

SLS is implicated in premature hair loss in men and women, and may be one reason for widespread incidence of thinning hair. Because SLS is such a caustic cleanser, it actually corrodes the hair follicle and impairs its ability to grow hair. SLES (sodium lauryl ether sulfate) causes dramatic decline in the hair growth cycle, and prolongs the hair loss phase (normally 3 months) by a factor of eight. Simply removing this ingredient, and its corrosive and irritating effects, begins to restore the natural, healthy function of the hair follicle.

SLS is also implicated in scalp irritation, eczema, dandruff, and other scalp conditions. Many shampoos designed to alleviate dandruff, itching, and other scalp disorders may actually be causing the problems they are supposed to eliminate, because of the toxicity of SLS-containing formulas to the skin and scalp. Avoiding contact with this cytotoxic (cell killing) chemical is all many people need to completely alleviate scalp disorders.

“Natural” Brands Offer No Protection

Ingredient reviews of shampoos sold in health food stores under “natural” brands and labels have turned up many formulas containing SLS. The cost, reputation, or market position of the shampoo apparently has little to do with its contents. Some of the most reputable and exclusive brands contain SLS. Don’t be fooled by high prices or marketing hype—you must check the ingredients on each product if you want to avoid the harmful effects of SLS.

Propylene Glycol-More Health Concerns

Another common ingredient in many beauty creams, cleansers, makeup, and other cosmetics is **propylene glycol**. This chemical is used in industry as anti-freeze, airplane de-icer, and brake fluid. It is also used in thousands of cosmetic preparations as a delivery vehicle and solvent.

When you purchase a drum of propylene glycol from a supplier, that supplier is required to furnish an MSDS (Material Safety Data Sheet). The MSDS for propylene glycol says “Avoid skin contact.” We are amazed to find this same product in most skin creams on the market.

Recent findings indicate that propylene glycol has severe adverse health effects, and has been found to cause contact dermatitis, ototoxicity, kidney damage, and liver abnormalities in various clinical human and animal studies. The effects of propylene glycol are clearly more than skin deep. Propylene glycol has shown measurable toxicity to human cells in culture(16). It has been shown to inhibit skin cell growth in human tests, (17) and cell respiration in animal tests. When tested in guinea pigs and chinchillas, eardrops containing propylene glycol caused irreversible deafness, tissue and bone degradation, and morphological changes to the middle ear(18,19). Propylene glycol caused mytotoxic (skeletal muscular damage) effects in rats(20,21) and rabbits(22). PG is reported to directly alter cell membranes, to cause contact allergies and dermatitis(24), to cause skin thickening(25) and skin dehydration and chronic surface damage(26).

Propylene glyco poisoning has been reported to induce seizures in epileptics(27,28) and cardiorespiratory arrest(28,29). One study “advise(s) caution when propylene glycol is employed as a vehicle in clinical use”(30). In another study on PG ingestion in cats, researchers reported encephalopathy, depression. and ataxia. The similarities of PG absorption in cats and humans was noted, and the report stated: “These findings are significant not only for animals ingesting diets which contain propylene glycol, but for humans who receive propylene glycol-containing medications”(31)

PG and Premature Skin Aging

The science of skin biology has advanced substantially since propylene glycol was first introduced to cosmetics over 30 years ago, and yet PG is still the major ingredient in most skin creams, regardless of cost, market share, or “natural” claims. New findings suggest that using PG and other occlusive (filming) ingredients on the skin

actually ages the skin prematurely. Estimates are that skin ages at least 13 years for every 10 years these types of products are used.

Fortunately, products are now being developed based on scientific breakthroughs to reverse environmental and aging damage to the skin, and to support the biology of the skin as a living organ. This approach is returning rapid results in skin healing, wrinkle diminishment, and other problems of aging skin (sagging skin, eye bags, etc.).

You won't find these products in department stores any time soon, however. Many formulas with these new and often exotic ingredients are exclusive to a single manufacturer, and the expense of these breakthroughs is prohibitive for the major manufacturer. Fortunately, there are independent manufacturers beginning to bring these advances to market.

What You Should Do:

Check your shampoos, toothpaste, liquid soaps, body gels, and other skin products for sodium lauryl sulfate. We recommend that you avoid any further skin contact with products containing this ingredient

If you have children, make sure they are not using shampoos and toothpaste containing sodium lauryl sulfate. Children under 6 are especially vulnerable to improper eye development. Also check sun block products. (We found one that contains SLS and aluminum, a potentially dangerous combination for brain cell deterioration)

Replace products containing SLS with safer alternatives (formulas without SLS)

Check all your cosmetic products for propylene glycol and get them off your skin. If you have infants, check your baby wipes and baby lotions and find alternative products that are safe for children (some baby wipes are available with aloe instead of propylene glycol)

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