

How toxic is your bathroom?

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Be warned: your daily beauty regime could be taking years off your life. Pat Thomas reports on the chemical time-bomb in your cosmetics cabinet...

Earlier this year, the US Food and Drug Administration (FDA) did something amazing. It issued an unprecedented warning to the cosmetics industry that it was time to inform consumers that most personal care products have not been safety tested.

Where the US goes, the UK inevitably follows. If the FDA starts the ball rolling by flexing its muscles, it is possible that in the not too distant future 99 per cent of personal care products could be required to carry a caution on the label: *“Warning: The safety of this product has not been determined.”*

What concerns scientists at the FDA and at environmental health organizations throughout the world is the “cocktail effect” – the daily mixing of many different types of toxins in and on the body – and how this might damage health over the longer term.

On average, we each use nine personal care products a day containing 126 different ingredients. Such “safety” testing as exists looks for reactions, such as skin redness, rashes or stinging, but does not investigate potential long-term problems for either humans or the environment. Yet the chemicals that go into products such as shampoos and hand creams are not trace contaminants. They are the basic ingredients.

Absorbed into the body, they can be stored in fatty tissue or organs such as the liver, kidney, reproductive organs and brain. Cosmetics companies complain of unfounded hysteria, but scientists are finding industrial plasticizers such as phthalates in urine, preservatives known as parabens in breast-tumor tissue, and antibacterials such as Triclosan and fragrance chemicals like the hormone-disrupting musk xylene in human breast milk. Medical research is proving that fragrances can trigger asthma; that the detergents in shampoos can damage eye tissue; and that hair-dye chemicals can cause bladder cancer and lymphoma. An even greater number of substances in personal care products are suspected to present potential risks to human health from this known effect on animals.

If these problems had been linked to pharmaceutical drugs, the products would have been taken off the market. At the very least, money would have been spent on safety studies. But because the cosmetics industry is largely self-governing, and because we all want to believe in the often hollow promises of better skin and whiter teeth, products containing potentially harmful substances remain in use and on sale. Think it can't be that bad? Consider what goes into some of the UK's most popular toiletries.

OLAY REGENERIST

What they claim: Instantly improves the appearance of fine lines and wrinkles.

But watch out: To work, the product needs to be well absorbed, so Regenerist contains penetration enhancers like disodium EDTA. But these also drive toxins deeper into the skin. Watch out for hormone disrupters such as ethylparaben, methylparaben and propylparaben and potential carcinogens such as polyacrylamide, triethanolamine (which can form cancer-causing nitrosamines), and the artificial colours CI 16035, CI 19140 and PTFE (Teflon). Regenerist contains the sunscreens butyl methoxydibenzoylmethane (B-MDM) and ethylhexyl salicylate; not enough for an SPF rating, but potentially enough to irritate skin.

CLAIROL HERBAL ESSENCES SHAMPOO DRY/DAMAGED HAIR

What they claim: A totally organic experience.

But watch out: It looks and smells appealing because it is colored using four potentially cancer-causing dyes (CI 17200, CI 15510, CI 42053, CI 60730) and perfumed with synthetic fragrances that are known neurotoxins and skin irritants. Among its detergents, sodium lauryl sulphate can irritate skin and permanently damage eye tissue, and sodium laureth sulphate and cocamide MEA can be contaminated with 1,4-dioxane, a hormone disrupter associated with breast cancer. Cocamidopropyl betaine, another detergent, is a penetration enhancer, as is the solvent propylene glycol and the preservative tetrasodium EDTA; all allow other chemicals to penetrate more deeply into skin and bloodstream.

JOHNSON'S BABY SOFTWASH

What they claim: Best for baby, best for you.

But watch out: Children's skin is thinner and more absorbent than adults', so is a less effective barrier to chemical toxins. The rates of eczema and allergies among children are on the rise and the early introduction of toiletries on to sensitive skin may be a factor. When soap does the job, why expose your child to skin and eye irritants such as sorbitan laurate, cocamidopropyl betaine and acrylates/C10-30 alkyl acrylate crosspolymer, or PEG-150 distearate, PEG-80, PEG-14M and sodium laureth sulphate that can be contaminated with the carcinogens 1,4 dioxane and ethylene oxide, or hormone disrupters such as parabens? In addition, there's nothing here that naturally moisturizes the skin – only synthetic polymers (plastic-like substances) like polyquaternium-7 and polypropylene terephthalate that coat it, merely giving the impression of smoothness.

CALVIN KLEIN'S ETERNITY

What they claim: What the world needs now is love.

But watch out: Perfumes are made from the same neurotoxic solvents found in glues and adhesives and volatile chemicals common in garages and factories, albeit in much smaller concentrations. Eternity contains a staggering 41 ingredients, about 80 per cent of which have never been tested for safety in humans. The rest are known neurotoxins, allergens, irritants and/or hormone disrupters. Still think perfume is sexy?

LYNX DRY

What they claim: Spray more, get more.

But watch out: Lynx Dry contains three types of neurotoxins: solvents such as PPG-14 butyl ether; the propellants butane, isobutane and propane; and synthetic fragrance chemicals. It contains a preservative BHT (butylated hydroxytoluene), which has been linked with cancer, and PEG-8 distearate, which can be contaminated with the hormone-disrupting carcinogens ethylene oxide and 1,4-dioxane as well as polycyclic aromatic compounds such as benzene and benz(a)pyrene. Aluminum zirconium tetrachlorohydrate GLY and aluminum chlorohydrate work by clogging pores, but long exposure to aluminum-containing deodorants raises the risk of diseases such as Alzheimer's.

COLGATE TOTAL

What they claim: 12-hour fresh breath and antibacterial protection.

But watch out: Conventional toothpastes often contain irritating detergents like sodium lauryl sulphate, which can cause sore gums and mouth ulcers, and abrasives like hydrated silica, which can erode tooth enamel. Total contains a glue-like substance, PVM/MA copolymer, that sticks the active ingredients to teeth. Saccharin, a known carcinogen in animals, is also found. The coloring CI 42090 (banned in Austria, Belgium, France, Germany, Norway, Switzerland and Sweden) causes cancer in animals. Total contains Triclosan, an antibacterial agent that can in certain circumstances combine with chlorine in tap water to produce chloroform gas, which is easily absorbed into the skin or inhaled and can cause depression, liver problems and cancer.

GILLETTE MACH 3 SHAVING GEL

What they claim: The best a man can get.

But watch out: Helped by a global advertising campaign featuring David Beckham, Gillette shaving products have carved their way into the male psyche. If he thought about the ingredients, would the "epitome of the well groomed man" be so keen to promote the product? Mach 3 gel contains skin irritants such as triethanolamine, palmitic acid glyceryl oleate, three potential carcinogens (polytetrafluoroethylene (Teflon), BHT, CI 42090) and three central nervous system toxins or pollutants (isopentane, parfum and isobutane).

CLAIROL NICE 'N EASY

What they claim: Natural-looking color with complete grey coverage.

But watch out: All hair dye sold in the EU containing phenylenediamines, resorcinol and/or 1-naphthol must carry a warning: "Can cause an allergic reaction. Do not use to color eyelashes or eyebrows." Other hair dye ingredients – including coal tar dyes, 4-chloro-m-phenylenediamine, 2,4-toluenediamine, 2-nitro-p-phenylenediamine and 4-amino-2-nitrophenol – have proven carcinogenic in at least one animal species. In humans, intensive longer-term use of permanent hair dye is associated with breast,

ovarian and bladder cancer, non-Hodgkin's lymphoma, multiple myeloma and rheumatoid arthritis.

RADOX BUBBLE BATH

What they claim: Soothes emotions, cleanses the body.

But watch out: Soaking in hot water increases skin permeability and helps vaporise chemicals in products, making them more easily inhaled. Radox Relax contains potential skin irritants (sodium laureth sulphate, cocamidopropyl betaine) potential carcinogens such as the preservative combo methylchloro-isothiazolinone and methylisothiazolinone and synthetic dyes, and hormone-disrupting ethylhexyl methoxycinnamate. It contains perfume ingredients that are capable of irritating (coumarin, benzyl salicylate, limonene) and disrupting the central nervous system (butylphenyl methylpropional, alpha-isomethyl ionone, linalool).

NIVEA BODY

What they claim: Feel the essential care.

But watch out: Along with semi-synthetic fatty acids and waxes, Nivea Body contains denatured alcohol and glycerine, which can dry skin with repeated use. It also contains several estrogenic preservatives (methylparaben, butylparaben, ethylparaben, isobutylparaben, propylparaben), contact allergens (phenoxy-ethanol, linalool, citronellol, hydroxyisohexyl 3-cyclohexene carboxaldehyde) and a potential carcinogen (limonene). Film-formers like dimethicone keep undesirable ingredients next to the skin longer. About one-third of the listed ingredients are fragrances that are known irritants and sensitizers of human skin; chemicals that, with repeated exposure, can trigger allergic reactions.

CLEARASIL 3-IN-1 DEEP CLEANING WASH

What they claim: Clinically proven to help fight spots.

But watch out: A mix of strong detergents and surfactants (sodium lauryl sulfate, cetyl betaine, distearyl-dimonium chloride and steareth-21), chemical exfoliants (salicylic acid) and solvents (glycerin, alcohol, menthol) that are capable of removing the skin's natural oils, and synthetic skin conditioners for repairing some of the damage inflicted by the other ingredients. It contains two potential carcinogens (BHT and disodium EDTA) and fragrance ingredients among the most commonly reported contact allergens in the EU (behenyl alcohol, limonene benzyl salicylate, linalool, and hexyl cinnamal). These so consistently lead to skin problems that they must now be listed separately on labels within the EU.

LISTERINE TEETH AND GUM DEFENCE

What they claim: Kills the germs that cause plaque and bad breath.

But watch out: This mouthwash is 21.6 per cent alcohol. Alcohol dries and changes the pH of the mouth and throat and long-term use of alcohol-containing mouthwashes increases the risk of mouth and throat cancers. Listerine also contains a mild detergent,

Poloxamer 407, that is soluble in liquids at low temperatures but turns to a gel at higher temperatures (ie, body temperature). That makes it a film-former, “gluing” other ingredients on to the surfaces of the mouth for longer. Fluoride in quantity is poisonous if swallowed, and the sweetener saccharin causes bladder cancer in animals. Finally, synthetic colors, aromas and flavors are made from volatile solvents that can alter the basic flora of the mouth and may cause dermatitis.

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