

# HARMFUL BEAUTY

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It used to be that every time I had a rough day at work I headed straight to the closest drugstore's bath products aisle to find something that could wash away the work day and let me unwind in my own little home spa. I was in search of a poor man's version of retail therapy, since a basket-full of lotions, creams and makeup products at the drugstore is much more affordable than shopping for new clothes. It never occurred to me that my pampering and beautifying time could be harmful to my health. That was until one nightly bath ritual changed it all; my life and eventually my career path.

I settled into the hot water and thought it was the perfect opportunity to learn what was in the "Relaxing Lavender Aromatherapy Bubble Bath" I was soaking in. What I found shocked me.

As a graphic designer, I noticed some glaring differences on the product that peaked my interest. Contrary to the impeccable layout, typography and legible wording of the front side of the bottle I held in my hand, the ingredients panel on the back was minuscule, with the individual chemical names so tightly packed that they weren't legible at all. When I squinted hard under the dim bathroom lighting I managed to read: "Ingredients: Water, Sodium Myreth Sulfate, Cocamidopropyl Betaine, Decyl Glucoside, Sodium Chloride, Lavandula Angustifolia (Lavender) Oil, Sodium Hydroxymethylglycinate."

Out of all these words I could actually only understand two of them: water and lavender. Once out of the bath, I started Googling the remaining chemicals' names. When I got to "Sodium Hydroxymethylglycinate" and learned it was reported to be a formaldehyde-releasing agent, I gasped. Where was this information in plain English on the product? I thought I had purchased "Aromatherapy Bubble Bath" as promised by the label.

My bubble bath experience is not an anomaly. We don't often pay attention to the long-winded ingredient list on the back of our products. However, the problem is more complex than being

able to understand what each of those chemicals are by doing a simple Google search. There are over 80,000 chemicals used in the beauty marketplace—how can we know what we are putting in contact with our bodies?

That kick started my journey of scouting product labels and eventually led me to create Think Dirty, an app that empowers beauty shoppers to find and purchase the safest products.

Before then I didn't pay much attention to ingredient labels, as squinting is not enjoyable. Like most women, I was more concerned with rushing out the door in the morning, slapping on some body lotion and concealer without a second thought.

In the Think Dirty database, we discovered over 40,000 varied names are being used for the same ingredients. With so many different aliases, it is a huge task for most consumers to figure out what's what.

A few of the chemicals with high concerns are finally, albeit slowly, starting to be phased out of the products sold in the marketplace. The most prominent example is Triclosan. A few brands made headlines including Avon, L'Oreal and The Body Shop for their use of this ingredient. This chemical was known to have health risks, such as bacterial resistance and hormonal effects. As early as 1978, the FDA had started to propose removal of this chemical. Due to inaction, now over 30 years



Photo: Ersler Drmlity

later Triclosan is still found in an alarming number of consumer products. It was discovered that over 75% people's urine contains this chemical.

According to the article "Making Chemicals Green," published by the New York Times, it takes 14 years on average after scientists voice ingredient concerns, before U.S. government regulators will act upon that information. That's at least several hundred bubble baths and over a decade's worth of products we are using in the mean time.

Beauty and personal care is a \$400 Billion industry and brands know that beauty purchases are usually a decision process involving the emotional right side of the brain, with very little weight given to the left, logical side of the brain.

Frequently our obsession with certain brands is short-term and fueled by hype and mass subconsciousness. Without intervention, we hardly ever question why this is an issue. Before my "bathtub awakening," my purchases were guided by the most irrational fear in my head at the time, and usually by the brand with the biggest ad budget.

Like many other women, my relationship with beauty products has been complicated, particularly when my brand loyalties shifted according to my life stages and the corresponding insecurities. In high school I didn't like my thighs and bought

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into the dream that "slimming" gels might shrink even one tenth of an inch from my upper legs.

In my early 20s, swayed by the "3x longer" slogan, I ran after the promise of the "blackest black" eye lashes to help fix the look of my short Asian ones. From there, my inherent cultural bias towards freckles being undesirable was compounded by the fear of getting skin cancer and I obsessed about the need for SPF in every single product, religiously lathering myself with sunscreen even on non-sunny days. My obsession reached its peak when I travelled to Hong Kong, and came back with a stockpile of sunscreens with SPF's of 50, 80, and even 105, although higher SPF doesn't necessarily mean higher protection.



## WE LOOK AT EACH MIRACLE PRODUCT ON THE SHELF AS A GRAND PROMISE, AS LONG AS WE CONTINUE TO FEEL INSECURE ABOUT OURSELVES. THE BEAUTY INDUSTRY CONVINCES US TO BUY INTO THE UNREALISTIC BEAUTY IDEALS.

Fast forward to my late 20s to early 30s, the culturally learnt phobia of getting old dawned on me. I was on a mission to look for the anti-aging magic prescription. I was easily lured in by a story of an unknown doctor, who healed himself with some miraculous algae cream. Sold. I dropped \$150 for 250 ml and thought it was the deal of a lifetime. After all, who can put a price on eternal youth? Even though I later couldn't find said story of this doctor documented anywhere credible.

As mothers, daughters, aunts, friends and sisters we celebrate and encourage each other to take time out of our busy schedules to care for ourselves. But the definition of “self-care” is narrowly defined as spending our hard-earned dollars on brand name products with no visibly dramatic effect. We love to “treat” ourselves and at the same time we loathe our bodies and constantly hope to “fix” our “problem areas” with new products. The reason why the market can always have “new and improved” beauty products is because we as women are never allowed to be happy with the way we look.

We look at each miracle product on the shelf as a grand promise, as long as we continue to feel insecure about ourselves. The beauty industry convinces us to buy into the unrealistic beauty ideals. Physical perfection will still trump our health with questionable but “effective” ingredients that claim to make us look younger, slimmer, fresher, on-trend. What if we start embracing a new definition of self-care?

Instead of splurging on products full of toxic chemicals to boost our outer beauty, in 2015 let us all resolve to reflect on our own rationalizations on how we indulge on beauty products, and challenge conventional notion about what makes a product “work.” Improving our health and environment should top the list of our decision making flowchart. Collectively, if we all shop from the most responsible manufacturers and accept our bodies the way they are, the promise to achieve the eternal bliss is nearer than what the high-priced, magical name brand face creams have promised us for all these years.

## THINK DIRTY'S TOP 20 CHEMICALS TO AVOID IN YOUR BEAUTY PRODUCTS:

### SYNTHETIC FRAGRANCE

Used in products as a fragrance ingredient, or deodorant. Ingredients are not required to be disclosed by law. In most cases, Phthalates are found in fragrances. Sometimes it could contain a mixture of natural and synthetic fragrance ingredients. One example of the P&G's definition over 2,000 chemicals are listed.

### DMDM HYDANTOIN, DIAZOLIDINYL UREA, IMIDAZOLIDINYL UREA, METHENAMINE, QUATERNIUM-15, AND SODIUM HYDROXYMETHYLGLYCINATE

Preservatives in a wide range of cosmetics. These ingredients continually release formaldehyde which is considered Group 1 Carcinogenic to humans by International Agency for Research on Cancer (IARC).

### DEA/TEA/MEA

Diethanolamine (DEA) also affects male reproductive health, compromising the structure and swimming ability of sperm. In the presence of toxic nitrosamines, NDEA forms which has been shown to cause liver cancer and kidney tumors in rats. The European Commission prohibits the use of DEA in cosmetics.

### PHthalATES

Used in commercial products as a plasticizer, phthalates have been rated by IARC as a possible cause of cancer. Phthalates were shown to cause liver tumors and fertility problems in laboratory studies. Certain phthalates can also alter normal hormone activity which might lead to cancer and reproductive problems.

### ETHOXYLATED (ETHYLENE OXIDE) SURFACTANTS AND 1,4-DIOXANE

IARC has classified ethylene oxide in group 1, as a carcinogen to humans. 1,4-Dioxane was classified by the same agency as a Group 2B carcinogen, meaning it is probably carcinogenic in humans. 1,4-Dioxane is also irritating and linked to developmental and reproductive toxicity. Unfortunately, you will not find these ingredients listed on personal care products because they are contaminants of other ingredients.

### PARABEN

Parabens are used in cosmetics mainly as preservatives but also as fragrance. Parabens readily penetrate the skin and mimic estrogen, which interferes with endocrine regulation. Parabens have been linked to breast cancer and have restrictions on concentrations in the European Union.

### COAL TAR DYES

A known carcinogen recognized by IARC, coal tar dyes are found in hair coloring and other personal care products listed as a 5 digit number following CI, FD&C or D&C. In addition to cancer risk, coal tar dyes may be contaminated with toxic heavy metals. Many coal tar dyes are prohibited for use in the European Union and Canada.

### TRICLOSAN

Used to prevent bacteria growth in personal care products however, it has not been conclusively proved that soaps containing triclosan are better than other soaps at controlling bacteria. In laboratory studies on rats, triclosan was shown to disturb hormone regulation. Furthermore, it has been suggested that the use of triclosan may lead to antibacterial resistance.

### HYDROQUINONE

Although most commonly found in skin lighteners, hydroquinone is present in other products as a contaminant. It is considered one of the more toxic ingredients in personal care products because it is linked to cancer and organ system toxicity. Hydroquinone is prohibited from cosmetic products in the European Union.

### BHT/BHA

When used in lipsticks, it is possible that BHA is a carcinogen. In addition, BHA has shown to disturb normal hormone function. BHT is irritating to skin, eyes and respiratory system. Environment Canada classified both BHA and BHT as human health priorities and the IARC lists BHA as a possible carcinogen to humans.

### FORMALDEHYDE

Formaldehyde has been linked to cancer in high concentrations. At low concentrations it can be an irritant, causing respiratory distress and allergic reactions. IARC has classified formaldehyde as a carcinogen to humans.

### TRACE ELEMENTS/MINERALS

Few companies list trace minerals on ingredient labels because law does not mandate it. Trace elements are found in many cosmetics because their raw materials have a mineral origin. Trace elements can include lead, antimony, cadmium, selenium, arsenic, chromium and more. It is hard to assess the risk because the amount of each toxin is unknown. To date, only mercury is banned from cosmetics in the US.

### OXYBENZONE

Often found in sunscreens, oxybenzone has been linked to the deregulation of hormones. Additionally, it may be linked to cell damage and has demonstrated photoallergies' in some individuals. Oxybenzone also enhances the absorption of other chemicals into the skin because it is a penetration enhancer.

### POLYETHYLENE GLYCOL (PEG)

PEGs are another ingredient that may be contaminated with 1,4-dioxane and ethylene oxide. PEGs are also penetration enhancers which assist other chemicals to absorb through the skin. PEGs are not believed to be safe on broken skin and may even be mutagenic in these circumstances.

### SILICONE DERIVED EMOLLIENTS

Silicone-based compounds like cyclotetrasiloxane (D4), cyclopentasiloxane (D5) are bioaccumulative and persistent molecules. D5 is suspected to impair fertility and studies have linked it to neurotoxicity. D4 was found to disturb hormone function and possibly the reproductive system. D4, D5 and a third siloxane are listed under 'cyclomethicone' on labels. Although proposals have been made, there are currently no restrictions on these ingredients.

### TOULENE

A major concern with toluene is the potential contamination with benzene, a known carcinogen and suspected developmental toxin. EU CosIng reports that, from human and rat data, toluene was linked to lower birth weights, delayed postnatal development and developmental neurotoxicity. EU CosIng has limited the use of this ingredient to a maximum concentration of 25% of the final product.

### TALC

Similar to toluene, the major concern with talc is contamination, but with asbestos. In addition, this chemical may cause respiratory toxicity. The use of talc in cosmetics is restricted in the European Union and Environment Canada lists it as a moderate human health priority.

### 1,3-BUTADIENE

1,3 Butadiene has been demonstrated to cause cancer in both humans and laboratory animals. The International Agency of Cancer Research (IACR) rated 1,3-Butadiene as group 1, the agent is a carcinogen to humans.

### ALKYLPHENOLS

Commonly found in cleaning and hair products, alkylphenols are hormone disruptors. Alkylphenols mimic estrogen, cause altered development of mammary glands and have been shown to increase proliferation of human breast tumour cells (in vitro).

### PETROLATUM

Banned in the European Union, petrolatum is commonly contaminated with polycyclic aromatic hydrocarbons (PAH). Studies have shown that PAH is associated with cancer when chronically applied to skin. Additionally, PAHs can irritate skin and are possible allergens. Environment Canada also lists petrolatum as a high human health priority.