

Dangerous Cosmetics Causing Major Harm to Skin

Analysis by [Dr. Joseph Mercola](#)

July 06, 2024

STORY AT-A-GLANCE

- › Of the 13,000 chemicals used in cosmetics, only 10% have been safety tested; manufacturers are tasked with testing the safety of their products but do not have to release the testing data to the FDA
- › The number of adverse events from exposure to personal care products is likely underreported, as found by the FDA in 2014 when 127 event reports came to the agency about WEN haircare, but the company received over 21,000 complaints
- › Since manufacturers are not mandated to share adverse event reports publicly or with the FDA, you can protect yourself by using the EWG database to find safe personal care merchandise

Editor's Note: This article is a reprint. It was originally published July 12, 2017.

Unfortunately, just because it's sold over-the-counter does not make products safe for use. In fact, there are almost 13,000 chemicals used in cosmetics and only 10% have been tested for safety. Although the U.S. Food and Drug Administration (FDA) has the authority to regulate ingredients in cosmetics and personal care products, they often do not exercise it.

Personal care products are allowed to reach store shelves without any prior approval by any agency. Only after a product has demonstrated harm, has been misbranded or adulterated, may the FDA take action. According to the FDA's description of their authority over cosmetics:¹

"The law does not require cosmetic products and ingredients, other than color additives, to have FDA approval before they go on the market, but there are laws and regulations that apply to cosmetics on the market in interstate commerce.

FDA's legal authority over cosmetics is different from our authority over other products we regulate, such as drugs, biologics and medical devices. Under the law, cosmetic products and ingredients do not need FDA premarket approval, with the exception of color additives. However, FDA can pursue enforcement action against products on the market that are not in compliance with the law, or against firms or individuals who violate the law."

Compounding this situation, the FDA also has made manufacturers responsible for ensuring the safety of the products they produce and those manufacturers are not required to share the tests that reportedly demonstrate the safety of these products with any federal agency or the public.

What does this mean for a health-conscious person like yourself? When you use body lotion, deodorant, shampoo or nail polish, you may be applying harmful chemicals to your body, even if the product claims to be nontoxic and safe.

Adverse Event Reports From Cosmetic Products Rising

According to researchers who examined data from the FDA database of adverse effects, there were an average of nearly 400 adverse events reported yearly directly to the FDA between 2004 and 2016 for personal care products, such as shampoos, lotions, tattoos and perfume.²

The number of reports surged by the end of 2016 to nearly 1,591, triggered by the FDA's public appeal to consumers and physicians to report adverse events related to products manufactured by Chaz Dean Cleansing Conditioners under the **brand name WEN**.³ In their analysis of the data,⁴ researchers found the three personal care products that were reported most commonly were hair care, tattoos and skincare.

The products that involved the more serious health conditions were baby products. Haircare products were reported at a rate of 35% and skincare products represented 22% of the complaints. Lead author Dr. Steve Xu, a dermatologist and researcher from Northwestern University, commented on the number of adverse effects in the study,⁵ saying, "You can start making a cosmetic and start selling it the next day without any kind of permission from the FDA."

It was only in December 2016 that the FDA publicly released⁶ adverse event data on food and cosmetics from the Center for Food Safety and Applied Nutrition.⁷ Prior to this, an individual would have to file a Freedom of Information Act request to get access to safety reports. Although there were thousands of reports of adverse effects from the use of WEN haircare products, these products have not been pulled from the market.⁸

Although the FDA can recommend recalls, it has no authority at this time to enforce the recommendation. Sens. Dianne Feinstein (D-Calif.) and Susan Collins (R-Maine) have introduced a bill requiring greater regulation of personal care products, including skincare and haircare products.⁹ This bill would also give the FDA the authority to issue recalls and require better labeling and warnings from manufacturers.

While this type of regulation would help protect the consumer, Kim Harley, Ph.D., associate director at the University of California, Berkeley Center for Environmental Research and Children's Health, noted it would also help the FDA learn more about the long-term [effects of personal care products](#).¹⁰ Harley went on to say:

"When you think about harmful chemicals, you can think of two levels. You can think of acute harm and chronic exposure. Acute would be 'I use a cosmetic product, and I get this rash that's almost immediate, or hair loss or something like that.' It's an extreme reaction that's happening so close in time to when you use the product, it seems it's linked to the use of this product."

The researchers who analyzed the data of adverse events from the FDA noted there were several limitations to their study:¹¹

- There was a lack of information in the database as to what in the product caused the adverse effect.
- It was unclear if the report was made by a consumer or by a health professional.
- It is possible the study underestimated the total number of events as reporting is not mandatory, nor are companies or manufacturers required to share the complaints they receive with the FDA.

Adverse Event Numbers Are Likely Underreported

The spike in complaints to the FDA in 2014 by WEN haircare products triggered an investigation that uncovered another 21,000 complaints made to the manufacturer.¹² Both the complaints to the FDA and to Chaz Dean Cleansing Conditioners identified the same concerns with the WEN product, including hair breakage, hair loss and scalp problems.¹³ Xu commented on the discrepancy in adverse events reported to the FDA and the manufacturer, saying:¹⁴

"These numbers are likely underreported. We need better reporting, from both consumers and clinicians. Broadly, the hope of our paper was to continue this discussion to modernize and expand the collection of data about personal care products. If you can't measure it, you can't manage it, was our key point."

While necessary, the challenge of monitoring and regulating the cosmetic industry under the current laws is a daunting task. In a corresponding editorial published alongside the data analysis, three experts, including former commissioner of the FDA, Dr. Robert Califf, wrote:¹⁵

"For products that are used routinely, small effects over time within large populations can be almost impossible to detect without active surveillance. Even when health risks are substantial, as with tobacco products, the path to identifying and interpreting those safety signals clearly enough to justify regulatory action is often long and tortuous."

In an ideal world, sophisticated active monitoring approaches would complement – and perhaps eventually supersede – spontaneous adverse event reporting. For example, widely used internet and social media tools may offer novel ways for expeditiously collecting large amounts of data to yield a more complete picture of risks associated with commonly used products."

As cosmetic manufacturers are not required to share health-related complaints with the FDA, the agency was not aware of the extent of the problem with WEN until consumers began complaining directly to the FDA.¹⁶

As a result, the FDA opened the database of adverse event complaints for the first time in December 2016, used by Xu and his colleagues in this study. Xu commented on the information they gleaned from the repository of adverse event complaints:¹⁷ "That was really a great opportunity for us to see what the database would tell us. Unfortunately, it wasn't much."

Heavy Metals, Plasticizers and More Found in Your Cosmetics

You may be surprised by the number of toxic chemicals that likely reside in your bathroom cabinets. The average woman in the U.S. uses 12 **personal care products** each day, containing nearly 168 different chemicals.¹⁸ While the European Union (EU) has been more proactive in regulating the number of chemicals their consumers are exposed to in cosmetics, the U.S. has not. Xu stated:¹⁹

"[The EU] banned more than 1,000 chemicals. We've only banned 10. They've been very proactive about looking at chemical safety and putting the burden on manufacturers to prove their cosmetic products are safe."

This type of chemical exposure is not insignificant to your health, especially when these are products you use each and every day, over the course of your lifetime. In 2000, the Environmental Working Group (EWG) released a study evaluating the contents of 37 nail polishes produced by 22 companies – all of which contained dibutyl phthalate (DBP).²⁰

This one chemical in one product is known to contribute to lifelong reproductive impairments in rats, including testicles, prostate gland, penis and seminal vesicles.

In the Environmental Defense report, "Heavy Metal Hazard: The Health Risks of Hidden Heavy Metals in Face Makeup,"²¹ researchers shared results from testing 49 different makeup items, including powders, blushes, mascaras, lipsticks and foundations. The testing revealed serious heavy metal contamination in virtually all of the products:

- 96% contained lead
- 90% contained beryllium
- 61% contained thallium
- 51% contained cadmium
- 20% contained arsenic

Toxic Beauty Ingredients to Avoid

Despite over 21,000 consumer complaints to the contrary, after the FDA requested consumers and physicians to report adverse effects from using the WEN product, Guthy-Renker, WEN's marketing company, told NPR:²²

"We welcome legislative and regulatory efforts to further enhance consumer safety across the cosmetic products industry. However, there is no credible evidence to support the false and misleading claim that WEN products cause hair loss."

Until there is some control over the chemicals used in personal care products, safety testing and regulation that protects the consumer, it's important you read the label on every personal care and cosmetic product you purchase. Here's a list of some of the more hazardous chemicals found in many personal care products:^{23,24}

Parabens — This is a chemical found in deodorants, lotion, hair products and cosmetics that has been shown to mimic the action of the female hormone estrogen,

which can drive the growth of human breast tumors. A study published in 2012 found parabens from antiperspirants and other cosmetics appear to increase your risk of breast cancer.²⁵

BHA and BHT – These chemicals are used as preservatives in makeup and moisturizers and are suspected **endocrine disruptors**.²⁶

Synthetic colors – FD&C or D&C are the labels used to represent artificial colors. The letters are preceded by a color and number, such as D&C Red 27. The colors are derived from coal tar or petroleum sources and are suspected carcinogens. They are also linked to **ADHD in children**.

Fragrance – This is a large category of chemicals that are protected as proprietary information, and manufacturers do not have to release the concoctions they use to produce the scents in fabric sheets, perfumes, shampoos, body washes and anything else that has an ingredient called "**fragrance**."

Triclosan – This antibacterial ingredient found in soaps and other products has been linked to allergies, endocrine disruption, weight gain and inflammatory responses, and may aggravate the growth of liver and kidney tumors.

Formaldehyde-releasing preservatives – While adding formaldehyde is banned as it is a known carcinogen, manufacturers have found other chemicals that act as preservatives and release formaldehyde. Chemicals such as quaternium-15, diazolidinyl urea, methenamine and hydantoin are used in a variety of cosmetics and slowly release formaldehyde as they age.

Sodium lauryl sulfate and sodium laureth sulfate – These chemicals are surfactants found in more than 90% of cleaning products and personal care products. They're used to make the product foam. They are known to irritate your eyes, skin and lungs and may interact with other chemicals to form nitrosamines, a known carcinogen.

Toluene – Toluene is made from petroleum or coal tar, and found in most synthetic fragrances and nail polish. Chronic exposure is linked to anemia, lowered blood cell

count, liver or kidney damage, and may affect a developing fetus.

Propylene glycol — This small organic alcohol is used as a skin conditioning agent and found in moisturizers, sunscreen, conditioners, shampoo and hairspray. It has also been added to medications to help your body absorb the chemicals more quickly and to electronic cigarettes. It is a skin irritant, is toxic to your liver and kidneys, and may produce neurological symptoms.^{27,28,29}

Reduce Your Chemical Exposure in Personal Care Products Using Simple Steps

It is crucial to track adverse events as they relate to any chemical or product you use. Report any adverse reaction you or your family experiences to the FDA³⁰ on their phone line (1-800-FDA-1088), online or their paper reporting form. The cosmetic industry is not interested in moving toward tighter regulations, which leaves you in charge of regulating what you and your family put on your skin.

Your skin is an excellent drug delivery system, so what goes on your body is as important as what goes in your mouth. Maintaining a healthy gut microbiome helps to protect you from some of the toxins you ingest by filtering them — a protection you don't get when they are absorbed through your skin.

Find recipes to make your own homemade bath and handwashing products that don't contain additional by-products and preservatives. [Coconut oil](#) is a healthy skin moisturizer that has natural antibacterial properties.

The EWG has an extensive database to help you find personal care products free of potentially dangerous chemicals.³¹ Products bearing the "USDA 100% Organic" seal are among your safest bets if you want to avoid potentially toxic ingredients. Be aware that products labeled "all-natural" may still contain harmful chemicals, so it's wise to check the full list of ingredients.

Sources and References

- ¹ U.S. Food and Drug Administration, FDA Authority Over Cosmetics
- ^{2, 11} Reuters, June 26, 2017
- ³ CBS, June 27, 2017
- ⁴ Journal of the American Medical Association, published online June 26, 2017
- ^{5, 6, 22} NPR, June 26, 2017
- ⁷ FDA, "FDA Begins Posting Adverse Event Report Data for Foods and Cosmetics"
- ^{8, 10, 14} CNN, June 16, 2019
- ⁹ EWG, "Personal Care Products Safety Act Would Improve Cosmetics Safety"
- ¹² US Food and Drug Administration, May 9, 2017 (Archived)
- ¹³ Time Magazine, June 26, 2017
- ¹⁵ Journal of the American Medical Association, Editorial June 26, 2017 (Archived)
- ^{16, 17, 19} Chicago Tribune, June 28, 2017
- ¹⁸ ABC News, April 27, 2015
- ²⁰ Environmental Working Group, April 10, 2012
- ²¹ Environmental Defence, Heavy Metal Hazard
- ²³ David Suzuki Foundation, "The Dirty Dozen" Cosmetic Chemicals to Avoid
- ²⁴ The Huffington Post, January 23, 2014
- ²⁵ J Appl Toxicol. 2012 Mar;32(3):219-32
- ²⁶ Environmental Working Group, November 12, 2014 (Archived)
- ²⁷ Skin Therapy Lett. 2011 May;16(5):5-7
- ²⁸ Semin Dial. 2007 May-Jun;20(3):217-9
- ²⁹ Lab Invest. 1990 Jan;62(1):114-8
- ³⁰ U.S. FDA, "FDA 101: How to Use the Consumer Complaint System and MedWatch"
- ³¹ EWG.org Skin Deep Database