

- 3.3.2. PCC does not accept products containing synthetic ingredients that are known or probable allergen inducers and skin sensitizing agents, such as methylisothiazolinone.
 - 3.4. PCC does not accept products with ingredients produced through potentially harmful chemical processing methods, including ethoxylation and hexane extraction.
 - 3.5. PCC does not accept any products using pressurized aerosol sprays and gas propellants (e.g., propane or isobutane).
 - 3.6. PCC does not accept products with engineered nanoparticles.
 - 3.7. PCC does not accept products that contain microbeads.
 - 3.8. PCC encourages vendors to minimize the use of synthetic preservatives and does not permit products with any parabens, formaldehyde releasers, or isothiazolinones. Certain synthetic preservatives are permitted with use restrictions that are outlined under the [list of Unacceptable Ingredients](#) for Health and Body Care.
 - 3.9. PCC does not accept products with synthetic or artificial fragrances and flavors.
 - 3.9.1. Scents and flavors must be derived from natural sources, such as essential oils, fractions of essential oils, botanicals, or flavorings acceptable in USDA Organic products.
 - 3.10. PCC does not accept products that contain fluorinated compounds, or PFAS.
 - 3.11. PCC does not accept products with ingredients that may be contaminated with 1,4-dioxane, ethylene oxide, or other harmful byproducts.
 - 3.12. Pigments and ingredients containing heavy metals, including lead, mercury, and chromium are prohibited.
4. Animal Testing and Animal-Derived Ingredients
- 4.1. PCC does not accept any products that have been tested on animals.
 - 4.2. Animal-derived ingredients of endangered or threatened species are not accepted.
5. Sunscreens
- 5.1. PCC does not accept sunscreen products that contain any UV filtering chemicals, such as oxybenzone and avobenzone.
 - 5.2. PCC does not accept sunscreens or skin products marketed for sun protection that contain retinol or Vitamin A.
 - 5.3. PCC does not accept aerosol or aerosolized spray sunscreens.

Standard-Specific Glossary

Carcinogens are substances capable of causing cancer, either through tumor formation, genetic mutation, or disruption of cellular processes. While some substances, like radiation exposure, are clear and undeniable causes of cancer, other substances are suspected of being carcinogenic based on limited human data, animal studies, and research indicating similarities to other known carcinogens. Exposure to such substances, such as parabens, may not lead to cancer for decades or be the sole contributor to the development of a cancer, making it difficult to establish proof for many toxic chemicals that are most likely contributing to rising cancer rates due to chronic and low-level exposure.

Endocrine Disrupting Chemicals (EDCs) are substances that interfere with the body's endocrine system, either by mimicking or blocking hormones, or by interrupting biological processes involving hormones. The endocrine system is an information-signaling group of glands throughout the body that secretes

dimensions as ranging between 1 and 100 nanometers. The [FDA](#) does not have a legal definition for nanotechnology. However, they also recognize nanomaterials/nanoparticles as generally between 1 and 100 nanometers in size. For reference, a human hair is about 80,000 nanometers wide. Nanotechnology has a wide range of applications, some of which could be controlled and beneficial. In personal care products, finely ground titanium dioxide or silicone dioxide can be present freely and there is concern over the potential health impacts these substances have because they are small enough to enter the bloodstream or be absorbed in the intestines (if used in food).

The [National Toxicology Program](#) (NTP), housed under the United States' National Institutes of Health (NIH), is an inter-agency program founded in 1987 that monitors and evaluates the public health and environmental risks of toxic chemicals. The goal of the NTP is to coordinate testing efforts across departments in the government and to develop and continually improve toxicology science and testing methods. Read more on the [NTP's website](#).

Nonsynthetic (or natural) ingredients, as defined under the USDA National Organic Program, are “substance[s] that [are] derived from mineral, plant, or animal matter and does not undergo a synthetic process.”^{xii} Additionally, substances that are extracted or created through naturally occurring biological processes are considered nonsynthetic. For example, lactic acid would be considered nonsynthetic if produced using lactose (milk sugar) that is fermented by the bacterium *Lactobacillus*.

Petrochemicals are substances derived from petroleum, natural gas, or coal. The chemicals, classified as hydrocarbons, are commonly used in personal care products to serve diverse functions. Many surfactant, detergent, and emollient chemicals are petrochemicals. Propylene glycol, parabens, mineral oil, and petrolatum are all examples of petrochemicals you may find on the ingredient panels of common name-brand products. Many of these chemicals can also be synthesized from renewable resources, like coconut or palm oil.

PFAS, or per and polyfluoroalkyl substances, are chemicals used for their water and oil repellency; they are persistent in the environment and do not breakdown into benign substances over time. There are thousands of substances within the PFAS family, the most well-known one goes under the brand name of Teflon, used to coat non-stick cookware. PFAS can be found in food packaging, cookware, textiles and clothing, cosmetics, camping gear, fire retardants, and more. There is strong evidence that exposure to PFAS reduces immune system function, causes birth defects, damages internal organs, and increases the risk of certain cancers, such as prostate and bladder cancer.^{xiii}

The Precautionary Principle is a theory, framework, and approach to handling new situations and innovations through a lens of precaution for health and safety. Under the precautionary principle, the burden of proof for potential harm to human health or ecosystems rests on the proponents of what is being introduced, created, or proposed for implementation. In the case of toxics or ingredients, it shifts the burden of proof that a substance is safe on those who claim it is safe, rather than requiring proof of its harm. In the United States, the regulatory approach to many consumer goods, including most food additives and personal care products has not employed the precautionary principle. Historically, most ingredients are assumed to be safe unless those who have concerns can provide irrefutable proof of harm.

Retinol, or Vitamin A, is an antioxidant added to many personal care products because it reduces fine lines and slows skin aging. However, studies have found that forms of Vitamin A, in the presence of sunlight, can accelerate cancerous lesions and tumors. This was not discovered until after retinol or other forms of Vitamin A became a common additive in sunscreens, under the assumption that Vitamin A would help protect the skin from sun damage. It can still be found in some products available for purchase. To learn more, see the [EWG's Sunscreen Guide](#).

Synthetic fragrances are human-created chemical mixtures that provide scent to a product. These are usually made from petroleum or natural gas byproducts and are typically chemicals not found in nature.

There are also “nature identical” compounds, which are chemically and structurally identical to their essential oil counterparts, but they are synthesized in a lab. Most fragrances in products are blends of many chemicals considered trade secrets, so while it is only one ingredient, it could be comprised of hundreds of chemicals. There are approximately 3,000 different chemicals used in proprietary fragrances, many of which are linked to various health concerns including cancer, allergies, neurotoxicity, and reproductive and developmental toxicity.^{xiv}

Synthetic ingredients, as defined under the USDA National Organic Program, are “substance[s] that [are] formulated or manufactured by a chemical process or by a process that chemically changes a substance extracted from a naturally occurring plant, animal or mineral sources, except that such term shall not apply to substances created by naturally occurring biological processes.”^{xv}

Appendix

Section A: Products within the scope of the HBC, Personal Care Products Standard

- Soap: liquid, bar, or other form
- Body lotions, creams, and oils
- Essential oils
- Facial products: washes, creams, serums, masks, towelettes
- Hair products
 - Soap/shampoo
 - Hair conditioner
 - Styling products
- Cosmetics: foundation, BB/CC cream, concealer, primer, eye liner and shadow, mascara, lipsticks and balms, nail polish
- Sunscreen
- Bath products
 - Bubble baths
 - Body scrubs
 - Bath bombs
 - Body wash
- Oral care products
 - Toothpaste and powder
 - Mouth wash
 - Dental floss and toothbrushes
- Deodorant and body sprays
- Personal care
 - Lubricants
 - Shaving creams

ⁱ Lauren Zanolli, “Pretty Hurts: Are Chemicals in Beauty Products Making Us Ill?,” *The Guardian*, May 23, 2019, sec. US news, <http://www.theguardian.com/us-news/2019/may/23/are-chemicals-in-beauty-products-making-us-ill>.

ⁱⁱ Center for Food Safety and Applied Nutrition, “FDA Authority Over Cosmetics: How Cosmetics Are Not FDA-Approved, but Are FDA-Regulated,” FDA (FDA, March 8, 2021), <https://www.fda.gov/cosmetics/cosmetics-laws-regulations/fda-authority-over-cosmetics-how-cosmetics-are-not-fda-approved-are-fda-regulated>.

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- ⁱⁱⁱ Maryam Khezzadeh, “Toxic Beauty — a Data Story,” Medium, April 17, 2017, <https://medium.com/think-dirty/toxic-beauty-a-data-story-283270f111cf>.
- ^{iv} Theo Colborn, Dianne Dumanoski, and John Peterson Myers, *Our Stolen Future: Are We Threatening Our Fertility, Intelligence, and Survival? A Scientific Detective Story* (New York: The Penguin Group, 1997).
- ^v Stacy Malkan, *Not Just a Pretty Face: The Ugly Side of the Beauty Industry* (Canada: New Society Publishers, 2007).
- ^{vi} Ami R. Zota and Bhavna Shamasunder, “The Environmental Injustice of Beauty: Framing Chemical Exposures from Beauty Products as a Health Disparities Concern,” *American Journal of Obstetrics and Gynecology* 217, no. 4 (October 2017): 418.e1-418.e6, <https://doi.org/10.1016/j.ajog.2017.07.020>.
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- ^{viii} Lauren Zanolli, “Pretty Hurts: Are Chemicals in Beauty Products Making Us Ill?,” *The Guardian*, May 23, 2019, sec. US news, <http://www.theguardian.com/us-news/2019/may/23/are-chemicals-in-beauty-products-making-us-ill>.
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- ^{xi} Eric Lipton and Rachel Abrams, “Cosmetics Industry in Lather over Legislation Aimed at Keeping Products Safe,” *The Seattle Times*, August 15, 2016, sec. Nation, <https://www.seattletimes.com/nation-world/nation/cosmetics-industry-in-lather-over-legislation-aimed-at-keeping-products-safe/>.
- ^{xii} National Organic Standards Board, “NOSB Guidance for the Review of Synthetic and Non-Synthetic Substances,” August 17, 2005, <https://www.ams.usda.gov/sites/default/files/media/NOP%20Rec%20Guidance%20Review%20of%20Synthetic%20and%20Nonsynthetic%20substances.pdf>.
- ^{xiii} Agency for Toxic Substances and Disease Registry, “Potential Health Effects of PFAS Chemicals,” ATSDR, June 24, 2020, <https://www.atsdr.cdc.gov/pfas/health-effects/index.html>.
- ^{xiv} “Fragrance Chemicals,” Health Care Without Harm, April 28, 2013, <https://noharm-uscanada.org/issues/us-canada/fragrance-chemicals>.
- ^{xv} Ibid.