Standard

1. General Criteria

1.1. Cleaning products sold at PCC stores must adhere to the requirements outlined in Sections 2 and 3 of the standard below.

1.2. Products used in stores by PCC staff or third-party cleaning services must be chosen in accordance with the criteria outlined in section 4 of the standard below.

1.3. Hand soaps offered to shoppers and staff in store restrooms must meet PCC's Personal Care Products Standard.

2. General Criteria for Products Sold in Stores

2.1. PCC prioritizes and encourages cleaning product vendors to pursue third party certifications that verify sustainability or safety ingredient claims (e.g., Made Safe or USDA Organic).

2.2. PCC does not accept any products using pressurized aerosol sprays with gas propellants (e.g., propane or isobutane).

2.3. PCC does not accept any products that have been tested on animals.

2.4. Vendors must abide by PCC's Packaging Standard and are encouraged to minimize packaging and use materials that are compostable, made from recycled content, reusable and/or easily recycled by the consumer after use when possible.

3. Ingredient Requirements for Products Sold in Stores

3.1. Cleaning products sold at PCC must disclose ingredients.

3.1.1. Ingredients should be on the product package or, if package size is too small, have clear information about where ingredient panels can be found online. QR codes are acceptable if accompanied by a statement indicating that ingredient information can be found by following the associated link.

3.2. PCC prioritizes products that are free of or contain minimal petroleum-derived ingredients.

3.3. PCC prioritizes ingredients that are plant and mineral based, and biodegradable.

3.3.1. Obtaining USDA BioPreferred certification to verify biobased content is recommended.

3.4. PCC does not accept products with ingredients that are classified as known human carcinogens according to the International Agency for Research on Cancer (IARC), National Toxicology Program (NTP), NIH National Cancer Institute, or similar agency.

3.5. Products sold at PCC must not contain the following priority chemicals and substances of concern:

3.5.1. Ammonia

3.5.2. Artificial petrochemical fragrances and dyes (e.g., FD&C)

3.5.3. Chlorine Bleach or sodium hypochlorite

3.5.4. Per- and polyfluoroalkyl Substances (PFAS)

3.5.5. Phosphates

3.5.6. Phthalates

3.5.7. Quaternary Ammonium Compounds (Quats)

3.5.8. Sodium hydroxide (lye)[1]

3.5.9. Synthetic antimicrobials (e.g., triclosan)

4. Products Used by PCC Staff in Stores and Kitchens

4.1. All cleaning products used must meet any applicable federal, state, or local food safety and health department requirements.

4.2. If applicable, products must be approved by PCC's organic certification agency and, if required, documented in PCC's Organic Systems Plan.

4.3. Products should be sourced to minimize the presence of the following priority chemicals and substances of concern when possible:

4.3.1. Petrochemical artificial dyes and fragrances

4.3.2. Formaldehyde-releasing compounds

4.3.3. Volatile Organic Compounds (VOCs)

4.3.4. Parabens, triclosan, and similar synthetic antimicrobials

4.3.5. Per- and polyfluoroalkyl Substances (PFAS)

4.4. PCC encourages purchasing products that are Green Seal approved, USDA Biobased Certified, or EPA Safer Choices.

Standard-Specific Glossary

Antibacterial or antimicrobial are terms used to identify chemicals that kill or slow the spread of microorganisms, including bacteria, viruses, molds, and other germs. While these can be important tools, the overuse of antibiotics has become a global health concern because it is accelerating the evolution of antibiotic-resistant strains of microorganisms, making it harder to treat infectious diseases.[xvii] Similarly, antimicrobial cleaning chemicals that are overused could contribute to the problem of resistance in microorganisms.[xviii]

Biodegradable refers to the ability of something to biodegrade, which is a chemical process during which microorganisms that are available in the environment convert materials into natural substances such as water, carbon dioxide, and compost (artificial additives are not needed). The process depends on the surrounding environmental conditions (e.g., location or temperature), the material and on the application. Biodegradable materials sometimes simply break down in the environment into small pieces, which might make it appear the material has fully disappeared and is no longer a concern. Many materials can be biodegradable, but that does not always guarantee they are safe or nontoxic to the environment in which they degrade.

Biobased products are defined by the United States Department of Agriculture's (USDA) BioPreferred program as those "derived from plants and other renewable agricultural, marine, and forestry materials." Ingredients or products considered biobased are alternatives to conventional substances made from petroleum or coal tar. For example, surfactant chemicals can be made from the fatty acids of coconuts, or they can be synthesized from petrochemical feedstocks, which also contain similar carbon-based compounds.

[1] Acceptable in ingredient list of soap-based products as component in saponification process.

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 hormones to regulate growth, reproductive function, sexual development, mood, metabolism, and sleep. It's comprised of the thyroid, parathyroid, adrenal, and pituitary glands, as well as the pancreas, ovaries, and testicles. This complex system controls a huge range of biological functions and is imperative to normal development. EDCs, which are usually human-made chemicals, are associated with a plethora of health risks including cancer, birth defects, obesity, diabetes, early puberty, neurological development delays, and immune system problems. Examples of EDCs include pesticides (DDT and atrazine), bisphenols and phthalates used in plastic production, per- and polyfluoroalkyl substances (PFAS, a class of oil and water repellant chemicals), and triclosan (an artificial antimicrobial).

Essential oils are concentrated oils produced from plants and botanicals, which contain the active components or chemicals of the source material, the most prominent one being scent. These volatile oils are extremely potent; none should be ingested and only a select few have been deemed safe to use without dilution. Most essential oils should be used at concentrations of 2-5% depending upon the product and its intended use.

Eutrophication is the process by which a body of water becomes overly enriched with nutrients, primarily nitrogen and phosphorous, leading to excessive algae and plant growth and oxygen deficiency. When the algae and plants eventually start decomposing, they release large quantities of carbon dioxide, which lowers the pH of the water, making it more acidic (a process known as acidification).

Green chemistry is a theory and framework for designing and producing chemical products and processes to eliminate or reduce the use and generation of hazardous substances. The goal is to reduce pollution, enhance efficiency, and save resources and energy.[xix] To learn more, visit the Environmental Protection Agency's Green Chemistry page.

Human-made, or man-made, chemicals are substances that do not occur in the environment through natural reactions but must be manufactured by humans. Some human made substances can biodegrade, might be produced through relatively benign techniques, or derived from what would be considered natural sources.

Made Safe is a human health and ecosystem-focused product certification program. They help connect shoppers with safer products and provide education on avoiding toxic chemicals in everyday life. Their mission is to "revolutionize how consumer products are made, thereby eliminating the use of harmful chemicals from the marketplace to ensure a safe and sustainable future for all."

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."[xx] 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*.

Organic refers to the practices associated with organic food production and processing that prohibit the use of most synthetic inputs and pesticides, along with requiring other environmental and animal-friendly agricultural and food handling practices. Established by the Organic Foods Production Act (a federal law), the National Organic Program (NOP) within the US Department of Agriculture (USDA) manages the organic certification standards, enforcement, and accreditation of independent certifying bodies. Many other countries also have organic certification programs.

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 synthetized 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.[xxi]

Phthalates are a group of chemicals called plasticizers, which are added to plastics to increase their flexibility, transparency, and durability; most often, they're used to make PVC plastics softer. Phthalates, like BPA, are known to disrupt the endocrine system and exposure may increase the risk of certain cancers and cause reproductive and developmental harm.[xxii]

Preservatives are additives that prevent products from spoiling by inhibiting mold and bacterial growth, which help them last longer. There are natural preservatives, such as salt, vinegar, sugar, and citrus juices, and there are synthetic or artificial preservatives like sodium benzoate or butylated hydroxytoluene (BHT). Additionally, there may be some preservatives that are synthesized, but derived from natural sources; one example is ascorbic acid, which is more commonly known as Vitamin C.

Surfactants are chemical compounds that lower surface tension between water and other materials. In cleaning products, they help break up and lift dirt, grease, and oil from surfaces. Surfactants also help stabilize water-containing products, such as dish soap, to ensure the water in the product mixes with the other ingredients.

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 synthetized 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.[xxiii]

Synthetic is a term that generally refers to a substance that has been chemically changed, does not exist in nature, or can exist in nature but was produced through chemical reactions. According to the USDA

NOP, any substance other than those naturally occurring in a plant, animal or mineral is considered synthetic if it is formulated or manufactured by a chemical process.[xxiv]

Appendix

Section A: Products within the scope of the Cleaning Products Standard

- General purpose cleaners, material-specific cleaners (e.g., glass or oven cleaners)
- Toilet cleaners
- Dish soap, including dishwasher detergents
- Laundry detergents and other laundry products or accessories
- Cleaning wipes
- Disinfectant sprays
- Air fresheners

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