
PROPOSED STANDARD FOR SOAPS, CLEANSERS, AND SHOWER PRODUCTS – GS-44

**GREEN SEAL™ PROPOSED ENVIRONMENTAL STANDARD FOR
SOAPS, CLEANSERS, AND SHOWER PRODUCTS (GS-44)****1.0 SCOPE**

This standard establishes environmental requirements for hand, hair, and body soaps and cleansers used and rinsed after use. This includes liquid and solid soap and cleansers, shampoo, conditioner and related shower products for baby, child, adult, commercial, professional, and pet use. Antimicrobial soaps and cleansers are not included in the scope of this standard.

2.0 DEFINITIONS

2.1 Allergens: Allergenic substances listed by the European Commission and cited in the Cosmetic Directive.

2.2 Antimicrobial: Substances which can kill or inhibit the growth of microorganisms.

2.3 Antiseptic: Substances that prevent or arrest the growth of microorganisms.

2.4 Asthma: A chronic respiratory illness that intermittently impairs breathing. It is characterized by variable airflow obstruction, commonly presenting with symptoms of cough, wheeze, shortness of breath, or chest tightness, which may be mild, moderate, severe and even life-threatening. Symptoms may resolve completely between active episodes. Symptoms may occur during exposure, immediately after exposure or up to 24 hours later in a “late phase,” even interrupting sleep.

A chemical is considered capable of causing asthma if it is specifically listed as an Asthmagen by the Association of Occupational and Environmental Clinics (AOEC).

2.5 Carcinogens: Chemicals listed as a known, probable, reasonably anticipated, or a possible human carcinogen by the International Agency for Research on Cancer (IARC) (Groups 1, 2A, and 2B), the National Toxicology Program (NTP) (Groups 1 and 2), the United States (US) Environmental Protection Agency (EPA) Integrated Risk Information System (IRIS) (weight-of-evidence classifications A, B1, B2, C, carcinogenic, likely to be carcinogenic, and

PROPOSED STANDARD FOR SOAPS, CLEANSERS, AND SHOWER PRODUCTS – GS-44

suggestive evidence of carcinogenicity or carcinogen potential), or the Occupational Safety and Health Administration (OSHA).

2.6 Cleanser: A product that has detergent properties that are not necessarily due to alkali-fatty acid compounds, and may contain synthetic detergents.

2.7 Disinfectant: An antimicrobial agent capable of destroying pathogenic and potentially pathogenic microorganisms on inanimate surfaces.

2.8 Halogenated Organic Solvents: Organic solvent containing halogens including fluorine, chlorine, bromine and iodine.

2.9 FDA: The United States Food and Drug Administration.

2.10 Fragrance: An additive, often (but not limited to) a multi-component additive, used in a product with the purpose of changing the scent of the product.

2.11 Ingredient: Any constituent of a product that is intentionally added or known to be a contaminant that comprises at least 0.01% by weight of the product.

2.12 Intentional Introduction: The act of deliberately utilizing a material in the formation of a package or packaging component where its continued presence is desired in the final package or packaging component to provide a specific characteristic, appearance, or quality.

2.13 Intentional Component: A deliberately added product component, where it is added for its continued presence in the final product to provide a specific characteristic, appearance, or quality. Naturally occurring elements and chlorinated organics, which may be present as a result of chlorination of the water supply, are not considered intentional components if the concentrations are below the applicable maximum contaminant levels in the National Primary Drinking Water Standards found in 40 Code of Federal Regulations (CFR) Part 141.

2.14 ISO: International Organization for Standardization.

2.15 Mutagen: A chemical that meets the criteria for category 1, chemicals known to induce heritable mutations or to be regarded as if they induce heritable mutations in the germ cells of humans, under the Harmonized System for the Classification Of Chemicals Which Cause Mutations in Germ Cells (United Nations Economic Commission for Europe, *Globally Harmonized System of Classification and Labeling of Chemicals (GHS)*).

PROPOSED STANDARD FOR SOAPS, CLEANSERS, AND SHOWER PRODUCTS – GS-44

2.16 Natural Ingredients: Ingredients that come from biological products or renewable materials, forestry or agricultural materials (including plant, animal, and marine materials) and that do not contain genetically modified organisms and have been processed without synthetic chemicals or irradiation.

2.17 OECD: Organization for Economic Co-operation and Development.

2.18 Optical Brighteners: Additives designed to enhance the appearance of colors and whiteness in materials by absorbing ultraviolet radiation and emitting blue radiation. These compounds are also known as fluorescent whitening agents.

2.19 Organic Ingredients: Ingredients, produced and handled, certified by a USDA-accredited certifying agent.

2.20 Ozone-Depleting Compounds: A compound with an ozone-depletion potential greater than 0.01 (CFC 11=1) according to the US EPA list of Class I and Class II Ozone-Depleting Substances.

2.21 Post-Consumer Material: Material that would otherwise be destined for solid waste disposal, having completed its intended end-use and product life cycle. Post-consumer material does not include materials and by-products generated from, and commonly reused within, an original manufacturing and fabrication process.

2.22 Product As Used: The amount of product directed for use and diluted in 1 liter of tap water. If no dose is suggested, 5 ml of liquid soap or cleaners shall be used and 0.9 ml of foam soap or cleaners shall be used.

2.23 Primary Package: Package that is the material physically containing and coming into contact with the product, not including the cap or lid of a bottle.

2.24 Recyclable: The package can be collected in a substantial majority of communities, separated or recovered from the solid waste stream and used again, or reused in the manufacture or assembly of another package or product through an established recycling program.

2.25 Reproductive Toxin: A chemical listed as a reproductive toxin (including developmental, female, and male toxins) by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (California Code of Regulations, Title 22, Division 2, Subdivision 1, Chapter 3, Sections 1200, et. Seq.).

PROPOSED STANDARD FOR SOAPS, CLEANSERS, AND SHOWER PRODUCTS – GS-44

2.26 Reusable Package: A container which is routinely reused at least five times to store the original product contained by the package.

2.27 Sanitizer: A product that reduces the level of microorganisms present to acceptable levels established by federal authorities.

2.28 Serious Eye Damage: The production of tissue damage in the eye, or serious physical decay of vision, following application of a test substance to the anterior surface of the eye, which is not fully reversible within 21 days of application.

2.29 Skin Corrosion: The production of irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis, following the application of a test substance for up to 4 hours. Corrosive reactions are typified by ulcers, bleeding, bloody scabs, and, by the end of observation at 14 days, by discoloration due to blanching of the skin, complete areas of alopecia, and scars.

2.30 Skin Irritation: The production of reversible damage of the skin following the application of a test substance for up to 4 hours.

2.31 Skin Sensitizer: A substance that causes an immunologically mediated cetaceous reaction, also known as allergic contact dermatitis.

2.32 Soap: A product sold as “soap” in which most of the nonvolatile matter consists of an alkali salt of fatty acids and whose detergent properties are due to these alkali-fatty acid compounds (21 CFR 701.20).

2.33 Undiluted Product: This is the most concentrated form of the product produced by the manufacturer for transport outside its facility.

2.34 USDA: The United States Department of Agriculture.

3.0 PRODUCT-SPECIFIC PERFORMANCE REQUIREMENTS

Using standard test methods conducted under objective, reproducible laboratory conditions, a manufacturer can demonstrate that its product performs as well as or better than a conventional, nationally-recognized product in its category. The testing protocol shall include, at a minimum: cleaning ability, lathering/rinsing, and skin or hair condition after use. A standard soil shall be used and conclusions shall be derived from at least six

PROPOSED STANDARD FOR SOAPS, CLEANSERS, AND SHOWER PRODUCTS – GS-44

separate samples. All results, a summary of conclusions and a description of how panelists were chosen shall be submitted.

4.0 PRODUCT-SPECIFIC HEALTH AND ENVIRONMENTAL REQUIREMENTS

4.1 Toxicity. The *undiluted* product shall not have toxic characteristics such that it falls under the labeling requirements as a toxic or highly toxic product, as defined by Consumer Product Safety Commission regulations found at 16 Code of Federal Regulations (CFR) Chapter II, Part 1500.

4.2 Allergens, Carcinogens, Mutagens, and Reproductive Toxins. The *undiluted* product shall not contain any ingredients or intentional components that are allergens, carcinogens, mutagens, or reproductive toxins.

4.3 Skin Corrosion and Serious Eye Damage. The *undiluted* product shall not be corrosive to the skin or cause serious eye damage as defined by the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). Further, a product is considered corrosive to skin or to cause serious eye damage if it has a pH of 2 or less or a pH of 11.5 or greater, unless tested and proven otherwise.

Further, a product shall be evaluated for skin corrosion and serious eye damage following the testing and evaluation strategy described in the GHS. *In vitro* test validated by the Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM) or the European Centre for the Validation of Alternative Methods (ECVAM) may be used. Green Seal will also accept the results of other peer-reviewed or standard *in vitro* or *in vivo* test methods demonstrating that the product mixture is not corrosive. Testing is not required for any ingredient for which sufficient information exists.

4.4 Skin Irritation. The *undiluted* product shall not be a skin irritant as tested by OECD Guidelines for Testing Chemicals, Section 404 or other peer-reviewed or standard test methods. The product shall not be considered a skin irritant under the following scenarios:

- if test data shows that the whole-product is not a skin irritant,
- if test data shows that each ingredient present at or above a concentration of 5% is not a skin irritant, or
- if test data shows that any known skin irritants are non irritating when present in the product.

4.5 Skin Sensitization. The *undiluted* product shall not be a skin sensitizer, as tested by the local lymph node assay (LLNA) or following EPA test guidelines for skin sensitization (OECD Guideline 429, OPPTS 870.2600). Green Seal will

PROPOSED STANDARD FOR SOAPS, CLEANSERS, AND SHOWER PRODUCTS – GS-44

accept the results of other standard test methods, such as the guinea pig maximization test (OECD Guideline 406) or the Buehler test (OECD 406), as proof that the product in its most concentrated form is not a skin sensitizer when data from LLNA tests are not available. Any new product or ingredient testing should use the LLNA. Testing is not required for any ingredient for which sufficient information exists.

4.6 Skin Absorption. The *undiluted* product shall not contain ingredients, present at 1% or more in the product, that are listed on the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value list (TLV) carrying a skin notation, or substances that are listed on the German Deutsche Forschungsgemeinschaft (DFG) Maximum Allowable Concentrations (MAK) list with a skin absorption H notation.

4.7 Ingredients that Cause Asthma. The *undiluted* product shall not contain any ingredients that cause asthma.

4.8 Volatile Organic Compounds. The product *as used* shall contain no more than 1% Volatile Organic Compounds (VOCs), substances that contribute significantly to the production of photochemical smog, tropospheric ozone, or poor indoor-air quality. The VOC content shall be determined by California Air Resources Board Method 310, modified to measure fragrances and low vapor pressure organic compounds specified under Method 310 or calculated based on available data.

4.9 Toxicity to Aquatic Life. The product *as used* shall not be toxic to aquatic life. A compound is considered not toxic to aquatic life if it meets one or more of the following criteria:

$$\text{Acute LC}_{50} \text{ for algae, daphnia, or fish} \quad \geq 100 \text{ mg/L}$$

For purposes of demonstrating compliance with this requirement, aquatic toxicity testing is not required if sufficient aquatic toxicity data exist for each of the product's ingredients using a weighted average. Aquatic toxicity tests shall follow the appropriate protocols in ISO 7346-2 for fish/OECD test guidance 203 for fish, OECD test guidance 201 for algae, and OECD test guidance 202 for daphnia.

Alternatively, the product shall not be toxic to aquatic life defined as $IC_{50} > 1000$ mg/L as measured by whole formulation short-term sensitive toxicity test performed on the bacteria *Photobacterium phosphoreum*. Aquatic toxicity shall be measured by one of the following test methods: *Biological Test Method: Toxicity Test Using Luminescent Bacteria (Photobacterium phosphoreum)*, ISO 11348 or ASTM D5660-96.

PROPOSED STANDARD FOR SOAPS, CLEANSERS, AND SHOWER PRODUCTS – GS-44

4.10 Aquatic Biodegradability. The product *as used* shall be readily biodegradable as determined by whole formulation testing or based on evidence of the ready biodegradability of each ingredient.

Biodegradability shall be measured according to any of the following methods: ISO 7827, 9439, 10707, 10708, 9408, 14593; OECD Methods 301A – F; or OECD 310. Specifically, within a 28-day test, the ingredient shall meet one of the following criteria within 10 days of the time when biodegradation first reaches 10% (the 10-day window requirement does not apply to structurally-related surfactants):

- Removal of dissolved organic carbon (DOC) > 70%
- Biological oxygen demand (BOD) > 60%
- % of BOD of theoretical oxygen demand (ThOD) > 60%
- % CO₂ evolution of theoretical > 60%

An exception shall be made for an organic ingredient that does not exhibit ready biodegradability if it has low aquatic toxicity, is not bioaccumulating, and exhibits biodegradation rates above 70% (measured as BOC, DOC, or COD), per ISO test methods 9887 or 9888; or OECD 302A, B, or C.

For purposes of this section, low aquatic toxicity is defined as having an acute *and* chronic aquatic toxicity >100 mg/L where chronic aquatic (fish) toxicity is measured per OECD Method 204. Bioaccumulating is defined as having a bioconcentration factor (BCF) greater than 100 (or log BCF >2).

4.11 Prohibited and Restricted Ingredients. The *undiluted* product shall not contain the following ingredients:

- Phosphates
- Nitrilotriacetic acid or any of its salts
- Ethylene diamine tetra acetic acid or any of its salts
- Alkylphenol ethoxylates
- Ethoxylated alcohols
- Halogenated organic solvents
- Heavy metals including, lead, hexavalent chromium, or selenium both in the elemental form or compounds.
- Ozone-depleting compounds
- Optical brighteners
- Phthalates
- Nitro-musks
- Polycyclic musks
- 2-butoxyethanol
- Formaldehyde-donors
- Monoethanolamine

PROPOSED STANDARD FOR SOAPS, CLEANSERS, AND SHOWER PRODUCTS – GS-44

- Diethanolamine
- Triethanolamine
- Parabens
- Methyl dibromo glutaronitrile

4.12 Fragrances. Fragrances are prohibited in products intended for small children (<3 years). The product shall declare any fragrances on the product label in the ingredient line (see 6.2). Any fragrances used shall have been produced or handled following the Guideline in the Code of Practice of the International Fragrance Association.

4.13 Preservatives. The use of preservatives for purposes other than preservation of the product is not allowed. Documentation must be provided to demonstrate the dosage necessary to preserve the product.

4.14 Colors. Any color used shall be FDA certified or a natural ingredient.

4.15 Animal Testing. Green Seal wants to discourage animal testing and will accept the results of past peer reviewed or standard tests demonstrating compliance with a criterion. A mixture need not be tested if existing information demonstrates that each of the ingredients complies with a criterion. Additionally, non-animal (in-vitro) test results may be accepted, providing that the test methods are referenced in peer-reviewed literature and the manufacturer provides the reasons for selecting the particular test method.

5.0 PACKAGING REQUIREMENTS

5.1 Primary Package.

5.1.1 Recyclable Primary Package. The primary package shall be a recyclable package. If the primary package is not a recyclable package it must be a reusable package. An exception may be made for lightweight packaging (e.g., pouches or bags) that represent a 50% reduction in material use when compared with rigid packaging.

5.1.2 Recovered Material Content. The primary package shall contain the state-of-the-art amount of recovered and post-consumer content. Where a product's package is below these levels, the manufacturer must demonstrate that efforts have been made to use the maximum available post-consumer material in the package.

5.1.3 Concentrated Product Packaging. Concentrated products are prohibited from being packaged in ready-to-use forms, including but not limited to pump-dispenser bottles.

PROPOSED STANDARD FOR SOAPS, CLEANSERS, AND SHOWER PRODUCTS – GS-44

5.1.4 Heavy Metal Restrictions. Heavy metals, including lead, mercury, cadmium, and hexavalent chromium, shall not be intentionally introduced. Further, the sum of the concentration levels of these metals present shall not exceed 100 parts per million by weight (0.01%); an exception is allowed for refillable packages or packages that would not exceed this maximum level but for the addition of recovered materials. Further, intentional introduction does not include the use of one of the metals as a processing aid or intermediate to impart certain chemical or physical changes during manufacturing, where the incidental retention of a residual of that metal in the final packaging or packaging component is not desired or deliberate, if the final packaging or packaging component complies with the incidental concentration restrictions of 100 ppm.

5.1.5 Other Restrictions. Phthalates and Bisphenol A are prohibited from being intentionally introduced; an exception is allowed for packages that would not have added phthalates but for the addition of recovered material.

5.2 Secondary Packaging. Secondary packaging shall only be used for concentrates. An exception may be made for packaging of multiple units when only one of the units is a ready-to-use form, including but not limited to pump-dispenser bottles, and total packaging (primary plus secondary) is a reduction in packaging material use.

6.0 LABELING REQUIREMENTS

6.1 Antimicrobial Claims. The product shall make no antibacterial, disinfecting, antiseptic, or sanitizing product claims.

6.2 Ingredient Labeling. The product shall list all ingredients in order of predominance as directed by 21 CFR 701.3, and include fragrance ingredients. Fragrance ingredients may be labeled generically as “fragrance”.

6.3 Organic Claims. Organic claims shall be supported with documentation that they meet the USDA National Organic Program requirements.

6.4 Natural Claims. Only the following natural claims are allowed when the product meets the criteria outlined:

- “100 Percent Natural” or “All Natural” shall only contain natural ingredients, with no synthetic ingredients.

PROPOSED STANDARD FOR SOAPS, CLEANSERS, AND SHOWER PRODUCTS – GS-44

- "Natural" products shall contain 95% natural ingredients and not include synthetic fragrances, artificial colors, or ingredients from petrochemicals.
- "Made with/from Natural Ingredients" shall contain at least 70% natural ingredients and not include synthetic fragrances, artificial colors, or ingredients from petrochemicals.

6.5 Use Labeling. The product shall be accompanied by detailed instructions for proper use to maximize product performance and minimize waste. This shall include directions for proper use and recommended dose, and, if applicable, use with a sponge or washcloth.

6.5.1 The label shall include the following language, "Proper use and dosage saves costs and minimizes environmental impacts."

6.5.2 When the product is offered in reusable packages, the label shall include the following statement, "Using reusable packaging minimizes environmental impacts."

6.6 Plastic Labeling. If plastic, the packaging must be clearly marked with the appropriate Society of the Plastics Industry (SPI) symbol to identify the type of plastic for recycling.

6.7 Disposal Labeling. The label must include proper disposal instructions including clear package recycling instructions.

6.8 Certification Mark. The Green Seal Certification Mark may appear on the packaging and may appear on the product itself. The Green Seal Certification mark shall not be used in conjunction with any modifying terms, phrases, or graphic images that might mislead consumers as to the extent or nature of the certification.

6.9 Statement of Basis for Certification. Whenever the Green Seal certification mark appears on a package, the package shall contain a description of the basis for certification. The description shall be in a location, style, and typeface that are easily readable. Unless otherwise approved in writing by Green Seal, the description shall read as follows:

This product meets the Green Seal™ environmental standard for soaps, cleansers, shampoos, and conditioners based on its low impact on aquatic life, minimized use of harmful substances, and increased health protection.

ADDENDUM

GREEN SEAL™ CRITERIA FOR VERIFICATION OF OPTIONAL CLAIMS FOR GS-44 CERTIFIED CLEANERS

A. SCOPE

This criteria document establishes environmental requirements for optional verified claims on GS-44 certified products.

There is emphasis on demonstrated leadership in the following environmental impact areas: energy reduction, waste reduction, resource minimization (including water), emissions reduction, and biodiversity conservation.

B. DEFINITIONS

B.1 Biobased: The content of a product that is from biological products or renewable materials, forestry or agricultural materials (including plant, animal, and marine materials).

B.2 Carbon offsets: Mitigation of greenhouse gas emissions generated using reduction measures that may be purchased from a third-party carbon offset provider.

B.3 Fragrance: An additive, often (but not limited to) a multi-component additive, used in a product with the purpose of changing the scent of the product.

B.4 Greenhouse gas (GHG): Components of the atmosphere that contribute to the greenhouse effect including water vapor, carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons, perfluorocarbons, chlorofluorocarbons, and ozone.

B.5 Ingredient: Any constituent of a product that is intentionally added or known to be a contaminant that comprises at least 0.01% by weight of the product.

B.6 Renewable energy: Energy from non-depleting sources and derived from natural processes that are replenished constantly including wind, solar, water, geothermal, and biofuels.

PROPOSED STANDARD FOR SOAPS, CLEANSERS, AND SHOWER PRODUCTS – GS-44

B.7 Waste: By-products from the manufacturing of the product and package not included in the finished product that are not salable and are disposed, including wastewater.

C. CLAIM CRITERIA

C.1 No Added Fragrance: A product will be verified to contain no added fragrance when no fragrance ingredients are in the product. However, this does not imply that the product has no scent or odor.

C.2 Manufactured with Green Energy: A product shall be verified to be manufactured with green energy if the energy requirements for product and package production were directly fueled with a minimum of 75% renewable energy, not including any renewable energy certificate purchases.

C.3 Made with Zero Waste: A product shall be verified to be manufactured with zero waste when there was no disposal of waste (solid or water) during the production of the product and package. Responsible material management can be done within the company or with proven partnerships to result in zero net waste.

C.4 Made with Zero GHG Emissions: A product shall be verified to be manufactured with zero greenhouse gas emissions when there is no net GHG emissions during production of the product and package. This can be achieved within the company, with proven partnerships, or through carbon offset programs. If a carbon offset program is used for 100% of the emissions, a successful emissions reduction program must be demonstrated, with 10% or greater annual reductions in emissions.

C.5 Biobased Product: A product is verified to be a biobased product when its biobased carbon content is determined to be 100% of the total carbon, as determined with the ASTM International Radioisotope Standard Method D6866. Alternatively, the biobased components shall comprise 100% of the total weight of product, minus product water content, as determined with ingredient information.

D. LABELING REQUIREMENTS:

D.1 The verified claim may only appear on packaging, literature, or marketing materials for GS-44 certified products.

PROPOSED STANDARD FOR SOAPS, CLEANSERS, AND SHOWER PRODUCTS – GS-44

D.2 The verified claim shall not be used in conjunction with any modifying terms, phrases, or graphic images that might mislead consumers as to the extent or nature of the verification.

D.3 Whenever the verified claim appears on a package, the package shall contain a description of the basis for the claim verified along with the description of the basis of certification. The description shall be in a location, style, and typeface that are easily readable; shall be on the same side of the product label as the Green Seal certification mark; and not detract from the Green Seal certification mark. Unless otherwise approved in writing by Green Seal, the description shall, as applicable, read as follows:

No Added Fragrances: This product meets the Green Seal™ environmental standard for soaps, cleansers, shampoos, and conditioners based on its low impact on aquatic life, minimized use of hazardous substances, and increased health protection. This product was also verified by Green Seal to contain no added fragrance ingredients.

Made with Green Energy: This product meets the Green Seal™ environmental standard for soaps, cleansers, shampoos, and conditioners based on its low impact on aquatic life, minimized use of harmful substances, and increased health protection. This product was also verified by Green Seal to have been manufactured with at least 75% renewable energy.

Made with Zero Waste: This product meets the Green Seal™ environmental standard for soaps, cleansers, shampoos, and conditioners based on its low impact on aquatic life, minimized use of harmful substances, and increased health protection. This product was also verified by Green Seal to have been manufactured in a process that produced no net water or solid waste.

Made with Zero GHG Emissions: This product meets the Green Seal™ environmental standard for soaps, cleansers, shampoos, and conditioners based on its low impact on aquatic life, minimized use of harmful substances, and increased health protection. This product was also verified by Green Seal to have been manufactured with no net greenhouse gas emissions.

Biobased Product: This product meets the Green Seal™ environmental standard for soaps, cleansers, shampoos, and conditioners based on its low impact on aquatic life, minimized use of harmful substances, and increased health protection. This product was also verified to contain at least 100% biobased components.