



GS-41

Green Seal™ Environmental Standard for  
Hand Cleaners and Hand Soaps Used for  
Industrial and Institutional Purposes

First Edition

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THE MARK OF ENVIRONMENTAL RESPONSIBILITY

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## GREEN SEAL™

Green Seal is a non-profit organization devoted to environmental standard setting, product certification, and public education. Green Seal's mission is to work towards environmental sustainability by identifying and promoting environmentally responsible products, purchasing, and production. Through its standard setting, certification and education programs, Green Seal:

- identifies products that are designed and manufactured in an environmentally responsible manner;
- offers scientific analyses to help consumers make educated purchasing decisions regarding environmental impacts;
- ensures consumers that any product bearing the Green Seal Certification Mark has earned the right to use it; and
- encourages manufacturers to develop new products that are significantly less damaging to the environment than their predecessors.

The intent of Green Seal's environmental requirements is to reduce, to the extent technologically and economically feasible, the environmental impacts associated with the manufacture, use and disposal of products. Set on a category-by-category basis, Environmental Standards focus on significant opportunities to reduce a product's environmental impact.

Green Seal offers certification to all products covered by its Standards. Manufacturers may submit their products for evaluation by Green Seal. Those which comply with Green Seal's requirements may be authorized to use the Green Seal Certification Mark on products and in product advertising. Manufacturers authorized to use the Green Seal Certification Mark on their product are subject to an ongoing program of testing, inspection, and enforcement.

For additional information on Green Seal or any of its programs, contact:

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## FOREWORD

**A. Certification.** This Environmental Standard contains the basic requirements for certain products (as defined in the Scope section below) to be certified by Green Seal™ and for their manufacturers to receive authorization to use the Green Seal Certification Mark on products and their packaging, and in product advertising. The requirements are based on an assessment of the environmental impacts of product manufacture, use, and disposal and reflect information and advice obtained from industry, trade associations, users, government officials, environmental and other public interest organizations, and others with relevant expertise. These requirements are subject to revision as further experience and investigation may show is necessary or desirable.

**B. Compliance with the Standard.** Compliance with this Standard is one of the conditions of certification of a product by Green Seal.

**C. Compliance with Government Rules.** In order to be authorized to use the Green Seal Certification Mark, the manufacturer of the certified product must disclose all governmental allegations or determinations of violation of federal, state, or local environmental laws or regulations with respect to facilities in which the product is manufactured. Certification will be denied any product manufactured in violation of environmental laws or regulations if, in Green Seal's judgment, such violations indicate that the environmental impacts of the product significantly exceed those contemplated in the setting of the standard.

**D. Limitations on Purpose of Standard.** Green Seal's Standards provide basic criteria to promote environmental quality. Provisions for product safety have not been included in this Standard because government agencies and other national standard-setting organizations establish and enforce safety requirements.

**E. Substantially Equivalent Products.** Products that are substantially similar to those covered by this standard in terms of function and environmental impact may be evaluated and certified by Green Seal against the intent of the requirements of this standard.

**F. Unanticipated Environmental Impacts.** A product which complies with this Standard will not necessarily be certified by Green Seal if, when examined and tested, it is found to have other features which significantly increase its impact on the environment. In such a situation, Green Seal will ordinarily amend its standards to account for the unanticipated environmental impacts.

**G. Certification Agreement and Green Seal Rules.** In order to be authorized to apply the Green Seal Certification Mark to a product or its packaging, or to use the Green Seal Certification Mark in product advertising, the manufacturer of the product must (1) undergo an initial product evaluation to determine that the product complies with Green Seal's requirements, (2) sign a Green Seal Certification Agreement that, among other things, defines how and where the Green Seal may be used, (3) pay fees to cover the costs of testing and monitoring, (4) agree to an ongoing program of factory inspections and product testing, and (5) comply with the requirements found in the most recent version of "Rules Governing the Use of the Green Seal Certification Mark."

**H. Disclaimer of Liability.** Green Seal™, in performing its functions in accordance with its objectives, does not assume or undertake to discharge any responsibility of the manufacturer or any other party. Green Seal shall not incur any obligations or liability for damages, including consequential damages, arising out of or in connection with the interpretation of, reliance upon, or any other use of this Standard.

**I. Care in Testing.** Many tests required by Green Seal's Standards involve safety considerations. Adequate safeguards for personnel and property should be employed in conducting such tests.

**J. Referenced Standards.** Standards referenced in this document may have been superseded by a later edition, and it is intended that the most recent edition of all referenced standards be used in determining compliance of a product with this standard.

**K. Labeling Requirements.** This standard neither modifies nor supersedes government labeling requirements. Labeling language which varies in form from the requirements of this section may be used with the written approval of Green Seal.

## ENVIRONMENTAL STANDARD

### 1.0 Scope

This standard establishes environmental requirements for industrial heavy-duty hand cleaners and institutional hand cleaners. For purposes of this standard, industrial heavy-duty hand cleaners are defined as those products advertised for heavy-duty use to remove oil, grease, ink or other hard to remove soils in garages, print shops, and other industrial settings. Institutional hand cleaners are defined as those products advertised for routine, nonspecialized hand cleaning in office buildings, schools, retail and other public buildings. The standard does not focus on the use of hand cleaners in households, food preparation operations, or medical facilities.

### 2.0 Definitions

“**APEO**” means alkylphenol ethoxylate;

“**antimicrobial**” means substances which can kill or inhibit the growth of microorganisms;

“**antiseptic**” means preventing or arresting the growth of microorganisms;

“**bag in box**” means a flexible bag held inside a rigid outside container (box) that is not removed prior to use of the bag;

“**disinfectant**” means an antimicrobial agent capable of destroying pathogenic and potentially pathogenic microorganisms on inanimate surfaces;

“**EDTA**” means ethylene diaminetetra-acetic acid (also known as ethylene dinitrilotetraacetic acid) or any of its salts;

“**halogenated organic solvents**” means any organic solvent containing halogens including fluorine, chlorine, bromine and iodine;

“**IARC**” means International Agency for Research on Cancer;

“**industrial heavy-duty hand cleaners**” means products advertised for heavy-duty use to remove oil, grease, ink or other hard to remove soils in industrial settings;

“**ingredient**” means 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;

“**institutional hand cleaners**” means products advertised for routine, nonspecialized hand cleaning in office buildings, schools, retail and other public buildings;

“**NTA**” means nitrilotriacetic acid or any of its salts;

“**OECD**” means Organization for Economic Co-operation and Development;

“**readily biodegradable**” is determined using any one of the five test methods described in OECD Guidelines for the Testing of Chemicals, Test Guidelines 301A - 301E;

“**recyclable package**” means the package can be diverted from the waste stream through available processes and programs, and can be collected, processed, and returned to use in the form of raw materials or products;

“**sanitizer**” means a product that reduces the level of microorganisms present to acceptable levels established by federal or provincial health authorities;

“**skin irritant**” means the substances causes erythema or edema of the skin graded at 2 or more as defined by OECD 404;

“**skin sensitizer**” means a substance that causes an immunologically mediated cutaneous reaction, also known as allergic contact dermatitis;

“**standard use**” means the amount of product directed for use and diluted in 1 litre of tap water. If no dose is suggested, 5 ml of liquid hand soap shall be used and 0.9 ml of foam soap shall be used;

“**volatile organic compound**” (VOC) means any organic compound which participates in atmospheric photochemical reactions. It excludes those organic compounds which the ECP and Green Seal designate as having negligible photochemical reactivity. These compounds are taken based on the definition found in U.S Code of Federal Regulations. Title 40 part 51 paragraph s.

### **3.0 Product-Specific Performance Requirements**

Using a fixed, repeatable procedure, the product shall demonstrate efficacy against a nationally recognized conventional product showing equivalent or better performance. The testing protocol shall include, at a minimum: cleaning ability, lathering/rinsing, and skin condition after use. A standard soil shall be used and conclusions shall be derived from at least six separate samples. All results, a summary of conclusions and a description of how panelists are chosen shall be submitted.

### **4.0 Product-Specific Health and Environmental Requirements**

**4.1 Skin Sensitization.** The product shall not be a skin sensitizer as tested by OECD Guidelines for Testing Chemicals, Section 406, Buehler (1994), or Magnusson and Kligman (1969) or other peer-reviewed or standard test methods. The product shall not be considered a sensitizer under the following scenarios:

- if test data shows that the whole-product is not a skin sensitizer,
- if test data shows that each ingredient present at or above a concentration of 0.1% is not a skin sensitizer, or
- if test data shows that any known skin sensitizers are non-sensitizing when present at 0.1% or greater in the product.

**4.2 Skin Irritation.** The 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 at 5% or greater in the product.

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

**4.4 Prohibited Ingredients.** The product shall not contain the following ingredients:

- Phosphates
- NTA
- EDTA
- APEOs
- Halogenated organic solvents
- Butoxy-ethanol

**4.5 Fragrances.** The product shall declare any fragrances on the product label and on material safety data sheets. Any fragrances used shall have been produced or handled following the code of practice of the International Fragrance Association.

**4.6 Dyes.** If formulated or manufactured with dyes, the product shall be formulated with only food grade dyes.

**4.7 Carcinogens.** The product shall not be formulated or manufactured with any chemicals that are included in the International Agency for Research on Cancer (IARC) lists for proven (Group 1), probable (Group 2A), or possible (Group 2B) carcinogens.

**4.8 Photochemical Smog and Indoor Air Quality.** The product shall not contain volatile organic compounds in excess of the limits expressed in the table below as measured by EPA Method 24-24A, 40 C.F.R., Part 60, Appendix A (1991), or Method 18,48 Federal Register 48, no. 202, October 18, 1983, or Method 1400 NIOSH Manual of Analytical Methods, Volume 1, February 1984, or Environmental Protection Agency Method 8240 GC/MS Method for Volatile Organics, September 1986, or

California Air Resources Board Method 310; or as demonstrated through calculation from records of the amounts of constituents used to make the product.

GS 41 A Institutional Hand Cleaners	GS 41 B Industrial Heavy Duty Hand Cleaners
1%	8%

**4.9 Aquatic Biodegradability.** The product shall be readily biodegradable as determined by whole formulation testing. In lieu of such data, evidence on the ready biodegradability of each ingredient will be accepted if consistent tests have been applied for each ingredient;

**4.10 Toxicity to Aquatic Life.** Based on standard use of the product, 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)*, Report EPS 1/RM/24, November 1992, Environment Canada, ASTM D5660-96 or ISO 11348.

**4.11 Packaging.** The product shall not be packaged in bag in box packaging and shall be packaged in recyclable packaging. An exception shall be made for lightweight flexible packaging (e.g., pouches or bags) that represents at least 20% reduction in material use when compared with rigid packaging. As demonstrated by the due diligence of the manufacturer, efforts have been made to ensure packaging with post-consumer recycled content.

## 5 Labeling Requirements

- 5.1** The product shall be accompanied by detailed instructions for proper use to maximize product performance and minimize waste.
- 5.2** The Green Seal™ certification mark may appear on the product's packaging.
- 5.3** The Green Seal 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.
- 5.4** 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:

For products certified under GS 41 A, *“This product meets Green Seal’s environmental standard for institutional hand cleaners based on its reduced human and aquatic toxicity and reduced smog production potential.”*

For products certified under GS 41 B, *“This product meets Green Seal’s environmental standard for industrial hand cleaners based on its reduced human and aquatic toxicity and reduced smog production potential.”*