

Powdered Laundry Bleach (GC-11)
First Edition - August 30, 1996
Copyright © 1996 Green Seal, Inc.

1. Scope - This criteria document establishes environmental requirements for powdered laundry bleach.

2. Definitions - For the purpose of this criteria document, the following definitions apply:

1. Concentrate: a powdered product that requires less than 2.0 ounces by weight per load of laundry.

2. Ingredient: any constituent with which a product is formulated.

3. Primary packaging: the material physically coming into contact with and containing the product.

4. Post-consumer material: finished products, packages, or other recovered materials generated by a business or consumer that have served their intended end uses and that have been recovered or otherwise diverted from the waste stream for the purpose of recycling.

5. Recovered material: material that has been recovered or otherwise diverted from the waste generated after a material manufacturing process. Recovered material may include post-consumer material, cuttings, trimmings, obsolete inventories, and rejected unused stock, but does not include material capable of being re-used within the process that generated it.

6. Secondary packaging: any packaging material other than primary packaging, including wrappers, boxes, and blister packs, but excluding shipping containers.

3. Performance Requirements

1. The product shall brighten household laundry effectively. Performance of the product shall be compared to the standard leading brand product of powdered laundry bleach as measured by comparison tests conducted in accordance with ASTM D 4265-83, Standard Guide for Evaluating Stain Removal Performance in Home Laundering. The detergent used with the powdered laundry bleach shall be a leading brand of dye-free, fragrance-free and optical brightener-free detergent. The following stains on both polyester and cotton shall be used: make-up, grape juice, spaghetti sauce, blood, grass, ball point pen ink, and modified artificial sebum and particulate soil for staining. A product meeting the performance criteria shall have a brightening performance of at least 80% of the brightening performance of the standard leading brand product.

2. In lieu of section 3.1, data may be accepted from efficacy testing that is conducted by the manufacturer under objective, reproducible laboratory conditions and that clearly demonstrates that the product brightens household laundry effectively.

3. The product shall be formulated to work effectively as a concentrate.

4. The product shall be formulated to work effectively in cold (unheated) water.

5. Product Specific Environmental Requirements

1. Product Toxicological Requirements

1. The product's ingredients shall have a low concern level for Acute Oral Toxicity, defined as an LD50 for white rats of greater than or equal to 2000 mg/kg by the 1994 U.S. Environmental Protection Agency (EPA) Minimum Premarket Data Set (MPD) study.

2. The product shall not be formulated with ingredients that are listed in the latest edition of the Annual Report on Carcinogens, U.S. Department of Health and Human Services, National Toxicology Program. The product shall not be formulated with ingredients known to cause reproductive toxicity, as listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986, excluding ethanol [Cal. Code of Regulations, Title 22, Division 2, Subdivision 1, Chapter 3, Sections 12000 et seq.].

Notwithstanding this provision, a product may be formulated with substances cited in section 4.2.4 of this standard up to the levels specified in that section.

2. Product Environmental Requirements

1. The product shall not be toxic to aquatic life, as measured by test methods found in 40 C.F.R. Part 797, Subpart B, and as determined by meeting the following three criteria for acute (Daphnia or fish), acute (algae), and chronic (Daphnia) effects:

acute	EC50 Daphnia (48 hr.) > 10 mg/l
	LC50 fish (96 hr.) > 10 mg/l
acute	EC50 algae (96 hr.) > 10 mg/l
chronic	EC50 Daphnia (21-day or 14-day minimum) > 10 mg/l

For purposes of demonstrating compliance with this requirement, the testing prescribed by the regulations is not required for the product if sufficient information exists concerning each ingredient, either in peer-reviewed literature or databases or based on tests that are conducted according to standard procedures, to demonstrate that the product is not toxic to aquatic life.

2. Each organic ingredient in the product shall exhibit ready ultimate biodegradability under aerobic conditions as measured by one of the following U.S. Environmental Protection Agency (EPA) methods found at 40 C.F.R. Part 835.3110 (Modified AFNOR Test, Closed Bottle Test, Modified MITI Test, Modified OECD Test or Modified Sturm Test). Ready ultimate biodegradability shall be determined as follows:

Percentage removal of dissolved organic carbon (DOC) > 70% or Percentage degradation from oxygen consumption > 60% or Percentage biological oxygen demand (BOD) of > 60% or theoretical oxygen demand (TOD) Percentage CO₂ evolution of theoretical CO₂ evolution > 60%

For organic ingredients that do not exhibit ready ultimate biodegradability in any of these tests, the manufacturer may demonstrate biodegradability in sewage treatment plants using the Coupled Units Test found at 40 C.F.R. Part 835.3200 by demonstrating percentage DOC removal > 90%. Testing is not required for any ingredient for which sufficient information exists concerning its biodegradability, either in peer-reviewed literature or databases or based on tests conducted according to standard procedures.

3. Phosphates and phosphonates, including sodium salts and potassium salts, shall not be present in the product in quantities above 0.5% by weight of total phosphorus.

4. The concentrations of the following in the undiluted product shall not exceed the levels specified below:

Arsenic - 0.5 mg/kg
Chromium - 0.5 mg/kg
Lead - 0.5 mg/kg
Mercury - 0.02 mg/kg Cadmium - 0.1 mg/kg
Selenium - 0.5 mg/kg
Nickel - 0.5 mg/kg

Testing for these elements shall comply with test methods described in 40 C.F.R. Part 136.

3. Packaging Requirements

1. As soon as practicable, considering existing inventories and obligations, the manufacturer shall use packaging that is state-of-the-art with respect to content of recovered and post-consumer material, source reduction, and recyclability. Requirements for recycled content may be waived for packages designed to be refilled by the consumer from bulk refilling systems.

2. Secondary packaging shall not be employed. Products shall not be packaged in primary packaging containing polyvinyl chloride.

3. The sum of the concentration levels of lead, cadmium, mercury, and hexavalent chromium present in any package, ink or packaging component must not exceed 100 parts per million by weight.

Appendix A: Labeling Requirements for Certification by Green Seal

Unless otherwise approved in writing by Green Seal the following labeling requirements shall apply.

1. The Green Seal Certification Mark must appear on the product's packaging.

2. 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.

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

"This product meets Green Seal's environmental criteria for low toxicity, biodegradability, and reduced packaging."

4. The label must include detailed instructions for proper use to maximize product performance and minimize waste.

5. 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.