



August 14, 2009

Green Seal is developing a new environmental leadership standard on Laundry Care Products, GS-48. This standard is being developed to help consumers identify and choose environmentally preferable commercial and household liquid, power and pre-measured laundry detergents, stain removers and dryer sheets. A public scoping was conducted to help identify areas to consider when researching and drafting the new standard. Scoping is meant to highlight issues to consider; *specific requirements have not been set*. The proposed standard will follow at a later date, after researching the items identified during scoping.

Included in this document are the comments received on the Scoping.

By participating in Green Seal's standard setting process, the following organizations that provided comments played an important role in Green Seal's effort to encourage the design, manufacture and end use of environmentally superior products. Their assistance and involvement is greatly appreciated.

Adco Cleaning Products LLC
Ecolab, Inc.
Consumer Products Specialty Association
JohnsonDiversey
OEHHA California EPA
Planet Inc.
Procter & Gamble
Soap and Detergent Association

Project documents are available on the web site:
http://www.greenseal.org/certification/gs48_laundry_care.cfm

Scope (types of laundry care products to include in the standard)

Comment:

Categories should follow general institutional product groupings:

Detergent - Includes liquid / powder products, built ("one-shots") and un-built product (usually paired with alkali / builder)

Alkali / Builder - Includes liquid / powder products, water conditioners,

Bleach- Includes liquid / powder products, would not include "one-shot" products (in detergent category, defining difference would be presence or absence of surfactant, if no surfactant it would be a bleach)

Softener - Includes liquid / powder / sheets products, fabric conditioner, anti-stats, bacteriostats.

Sour - Includes liquid / powder products

Sour / Soft - Do not have separate category, follow rules of two categories above.

Comment:

Laundry care products which are generally used in the cleaning and during drying of laundry should be addressed in the standard. These include: pretreatments for spots, detergents and detergent additives (bleach) used in the wash, and fabric softeners used in the wash and the dryer.

Comment:

I would suggest having the bacteriostats as a separate category. Since the Institutional categories suggested above are so extensive, we may want to consider having household categories for the detergent and softeners, including drier sheets. If we include pre treatment items then we should also include the wrinkle release products.

Comment:

Laundry care products are already highly regulated and therefore, should not be subjected to Green Seal criteria. If this standard is to go forward, we recommend that criteria for categories of laundry care products follow those regulations established by agencies such as the California Air Resources Board (ARB) or criteria provided by standard setting organizations such as ASTM. We recommend that Green Seal consider each category of laundry care products as stand alone categories for this standard in recognition of the different chemistries, product forms, performance criteria and doses associated with the various product categories.

Comment:

There appears to be a lack of a new standard in the market place. The Canadian EcoLogo document CCD-105 (Laundry Detergent and Fabric Softeners, 1997) is up for review in 2008/2009, and GC-11, Green Seal Environmental Criteria for Powered Laundry Bleach is 12 years old.

Products to include or exclude (with reason):

a. Fabric softener liquids and sheets

- b. Fine washable laundry detergents
- c. Static control sheets and liquid
- d. dry cleaning kits
- e. Pre-wash stain remover/additives
- f. Fabric refresher sprays
- g. Laundry tablets
- h. Detergents for people with sensitive skin (baby, children, skin sensitive adults)
- i. Different types of bleach

Comment:

As a preliminary matter, we point out that “laundry” is a broad term in this context. It encompasses a wide range of products, markets, and applications that range from the residential user in a home to the industrial user in a manufacturing or processing facility. These differences reflect the breadth of the term laundry and as such, must be accounted for in any standard which purports to apply environmental protection criteria to the products.

Because of the breadth of the term laundry and the differences in the products, markets, and applications, we urge Green Seal to handle laundry cleaning and laundry softening products in separate standards. Cleaners and softeners have very different chemistries. Laundry detergents and pretreatment products have the same type of ingredients, whereas laundry fabric softeners contain different ingredients. The type and amount of fragrances used in these products vary. However, a detergent plus softening product can still fall into the laundry cleaning category.

Any Green Seal laundry standard also should clearly distinguish criteria for household versus commercial products, as the washing process and demands of the products vary significantly. In addition, the commercial market prefers packaging designed for use with automated dispensing systems, as well as packaging that limits direct contact with the formulation. For these reasons, Green Seal should consider treating commercial and household cleaning products separately.

Comment:

“Laundry” covers a wide range of products, markets, and applications ranging from the home user to industrial textile processing facilities. The performance requirements and satisfaction thresholds vary considerably across this spectrum; therefore any environmental protection criteria must consider these differences.

We recommend that any Green Seal laundry standard clearly distinguish criteria for household versus I&I, as the washing process and demands of the products vary significantly. We recommend that products intended solely for the industrial market be excluded from the scope of GS-48. We further implore Green Seal to consider whether a laundry products standard is appropriate or necessary given the steps the industry continues to take to reduce environmental and human impact of its products *without* the existence of a green standard in the US today.

Laundry is a key intervention point in preventing the spread of bacteria and disease. In health care and long-term care facilities, infection control through effective laundering is of paramount importance to human health. Preventing the spread of bed bugs, SARS, avian influenza, and a number of other health concerns depends on good laundry practices and products to prevent transmission when multiple guests/residents use the same linens. In order to ensure effective cleaning of human and body soils from textiles, aggressive detergents are required. Therefore we also recommend that long term care and health care users be excluded from the scope of GS-48.

Some laundry products carry EPA sanitizer claims. EPA-registered products and product classes (i.e. sanitizers) should be excluded from the scope of GS-48.

The invitation for stakeholder comments addressed “liquid and powder” products. We recommend that the delivered form of laundry products be unrestrictive. Laundry products today can be delivered as liquids, powders, solids, pastes, slurries, delivered via an intermediate solution, and a variety of other forms. The product form should not be exclusive so long as the formulation can meet the other criteria set forth in the standard.

Definitions (of terms to be used in the standard)

Comment:

There is likely a standard list of definitions available, these should be used. As a general rule, anything that will harmonize definitions, criteria, limits, etc. with other organizations should be considered. This will increase transparency and compliance. Definitions for terms which are not commonly used by ecolabel organizations like exposure based risk assessment, life-cycle analysis, etc. should be pulled from appropriate, authoritative sources.

Comment:

If development of this standard should proceed, we recommend that terms and definitions be standardized. We recommend ASTM D 459-08, Standard Terminology Relating to Soaps and Other Detergents. If terms are not available in this ASTM reference, we recommend terms as set forth by California Air Resources Board (ARB), or other recognized regulatory or standard setting organizations.

Measure of product performance

Comment:

Standard methods of product performance are available from testing organizations like ASTM and AATCC. Whenever possible, these standards should be used as they have been generally agreed.

Comment:

Product performance should be measured through use of the industry standard, the Terg-O-Tometer.

Comment:

Refer to ASTM and AATCC for guidance of appropriate testing procedures, else allow for manufacturer methods against a similar conventional (“not GS certified”) product as is done in other GS standards.

Comment:

It is appropriate to consider this criterion in the context of a holistic approach in the evaluation of products (EPA Guidance on Environmentally Preferable Purchasing). We recommend allowing for standardized performance testing measures (such as ASTM) as well as a company’s own criteria.

Concentration of products

Comment:

There should be no penalty for concentration of products. Standards should be developed on a functional unit or dose per wash basis. Since life-cycle assessment approaches demonstrate that product concentration (i.e., compact products) provides significant environmental benefits, a system is needed to recognize and reward these benefits either by reduction in the stringency of other metrics or a tiering of recognition levels (gold, silver, bronze).

Comment:

Standard concentration should be 2X, as that is the direction in which the entire industry is moving.

Comment:

“Concentrate”, “super concentrate”, and other marketing language is pervasive in the marketplace. A quantitative basis for concentration is ambiguous, but should refer to product data such as doses per container or doses per unit volume. Even this is difficult to precisely define, as the dose of a product will also depend on the activity of the as-sold formulation.

Concentration of products should allow more efficient transportation through the reduction of shipped weight compared to the number of uses provided by container. Effective concentration also provides more favorable storage and ergonomic benefits by having a smaller, lighter footprint.

The definition of "concentrate" depends on the market being considered - a "double concentrate" in the consumer sector may not be considered "concentrated" in the commercial or industrial sector.

Comment:

The trend towards compaction is already well underway with major retailers requiring compacted products in order to be sold on shelves. No criterion is needed for this standard.

Use with high efficiency washing machines

Comment:

Products specifically formulated for use in high efficiency washing machines provide significant environmental benefits in water and energy consumption and a system should be considered to help promote these products.

Comment:

The trend to use HE detergents and allied products will increase with the purchase of more HE machines. Importantly, HE detergents are specifically designed for these machines and, therefore, should be considered a separate category of products. Further, recognition of the need to foster innovation in these products to deliver the energy and water savings HE machines are designed to achieve, HE products should be excluded from any Green Seal standard on laundry products. Therefore, no criteria should be developed for these products.

Health concerns (e.g. skin sensitivity)

Comment:

Many of products contain ingredients for which there is much historical safety data, including animal LD50 data. Often times these data were generated with protocols that limited the top dose to 2,000 mg/kg. This dose was often considered a “limit dose” for which compounds were associated with very low acute toxicity. These materials may indeed have shown no lethality at 5,000 mg/kg, but were simply not tested up to that level.

Therefore, for these reasons, I would recommend this endpoint to use criteria consistent with that being used for Category 5 under the GHS which is found in:

http://www.unece.org/trans/danger/publi/ghs/ghs_rev02/02files_e.html

This section reads as follows:

Section 3.1.2.5 Category 5 is for chemicals which are of relatively low acute toxicity but which, under certain circumstances, may pose a hazard to vulnerable populations. These substances are anticipated to have an oral or dermal LD50 value in the range 2000 - 5000 mg/kg bodyweight and equivalent doses for inhalation exposure.

Care is also needed when considering carcinogens, mutagens, and reproductive toxins. The criteria for this in GS-37 (for example) contains the “shall not contain” phrase. If used in G-48, this phrase should be rethought as many commonly used, safe ingredients contain trace levels of contaminants that may be listed under regulations such as Prop 65.

For these cases, Prop 65 has established Safe Harbor values for which an exposure based risk assessment is conducted. As analytical capabilities continue to improve with regard to level of detection, the “shall not contain” phrase becomes an unreasonable expectation.

Comment:

We are unaware of irritation effects that are not being addressed by risk management systems already in place. Further, the irritation potential of a laundry care product is determined by all the components of the product, not single ingredients, and their concentrations in the product and any interactions between components that may reduce or enhance the irritation potential of the individual components. Consequently, the irritation potential of the finished product is not determined by the irritation potential of individual ingredients.

Comment:

Skin sensitivity is an important issue in certain sensitive population, such as babies, children and certain adults. "Normal" detergents can cause skin irritation and rash in these people. Cloth diapers washed in normal detergents are known to cause rashes in babies.

Aquatic concerns (e.g biodegradability)

Comment:

Pollution & Safety – All ingredients should be demonstrated to be safe in the environment via exposure based safety assessments using standard methods (e.g., EPA). These assessments are needed despite the suggestion that safety is assured via government regulations. There are many examples of compounds with questionable environmental safety which were approved for use by government programs. The primary goal of any ecolabel standard should be to demonstrate low risk to humans and organisms in the environment. These procedures should follow accepted literature or government approaches to establishing risk.

Aquatic Toxicity – The standard should be forward looking. While it is preferable to conduct toxicity testing, methods currently exist (and more will be developed) to predict the toxicity of ingredients to aquatic organisms without testing. These methods should be allowed. It is sufficient for the product to pass invertebrate and algal toxicity tests. The requirement for testing in fish should be eliminated or replaced with a specific in vitro test system. Acute data may be acceptable, but acceptance depends on the result of exposure based safety assessments. In some cases, chronic data should be obtained.

Biodegradability – While it is preferable to generate data and data should take precedence over predictions, the results of the OECD 301 and 303A studies can be predicted with computer based tools. The results of accepted models should be sufficient to meet this criterion. As with other criteria, a holistic view of the environmental benefits of a product is needed. In some cases, higher levels of slowly degraded compounds may be needed to provide significant environmental benefits not normally considered in ecolabel

standards (e.g., energy, CO₂ release, etc.). The environmental benefits of the product should be supported by life-cycle analysis. Use of a tiered recognition system would encourage continuous improvement while allowing a product to be recognized with a Green Seal.

Comment:

Surfactants and all other formula ingredients should be non-toxic to aquatic life based on foreseeable loadings. Ingredients in the formula should not bio-accumulate.

Comment:

Biodegradability is a key attribute of some ingredients, but primarily in the context of an environmental risk assessment. In and of itself, biodegradability measurements can not be directly extrapolated to the conclusions of the environmental safety of a product. Generally, biodegradability measurements, along with other physical/chemical information and information on volumes of use, can be used to predict the resulting environmental concentration of an ingredient. The resulting exposure can be compared to levels known not to cause adverse effects.

Therefore, biodegradability should only be considered in the context of a scientifically accepted framework for environmental risk assessment. Other mechanisms affecting the fate of a chemical should also be included in the evaluation, as appropriate. The role of biodegradation information in environmental risk assessment is described in a series of published papers entitled "Biodegradation: How Does It Apply to Cleaning Products?" (HAPPI, 30(5), 100-126, 1993).

Other aquatic concerns (acute or chronic toxicity)

Consideration of acute or chronic aquatic toxicity should only be done in the context of environmental risk assessment. Examining criteria for aquatic toxicity of ingredients in isolation of factors mitigating their exposure levels fails to consider the environmental fate of aqueous cleaning products, which are typically disposed into wastewater treatment systems and, thus, do not directly enter the environment. The ability of an ingredient to exert aquatic toxicity in the environment is a function of many factors beyond just its toxicity, including the mitigation due to fate mechanisms and dilution levels upon discharge into the environment. Another consideration is the volume of the ingredient used. A chemical that is very toxic but used at low levels may be less harmful than a high-tonnage, moderately toxic chemical.

Comment:

Reviewing previous GS standards, this topic clearly aims to address aquatic toxicity and aquatic biodegradation. The fate of laundry effluent is in a sanitary sewer, and ultimately a publicly-owned treatment works (POTW); therefore effective removal of ingredients by a treatment plant should be acceptable in lieu of aquatic toxicity or biodegradability profiles. This is consistent with the GS-37 revision 4 approach to aquatic toxicity and aquatic biodegradation.

In addition, because the laundry product is used to create a wash liquor (use-solution) that

is much more dilute than the product-as-sold, any criteria addressing the aquatic environment should account for the mixture that is discharged to the drain.

Prohibited chemicals

Comment:

All product manufacturers follow regulations such as those set by EPA and CPSC. Criteria that broadly prohibit specific substances are inappropriate and unwarranted.

All product ingredients should be assessed against the same criteria. Also, prohibiting all members of a class of ingredients without regard to differences within the class inappropriately captures existing and future chemicals of varied environmental impacts and creates disincentives to innovation within the class. Finally, criteria should not solely focus on the hazard potential of ingredients, but instead should consider the risk they pose as a result of use in laundry products.

Volatile organic compound limits

Comment:

California VOC limits are aggressive and designed to meet the needs of consumers in crowded cities. These standards should be considered for use in GS-48.

Comment:

Laundry products do not have adequate opportunity to enter the atmosphere but rather end up in water waste streams. Many VOC compounds are readily biodegradable in water and effectively removed from waste water streams. Further restriction of laundry products based on their VOC content may have an adverse effect on soil removal and linen life without a substantial environmental or human health benefit.

Comment:

The specific VOCs that are in the products need to be selected so that the degradation in a POTW is more rapid than the volatilization from the waste-water stream.

Comment:

The VOC content of finished products has been the subject of state and federal regulations. The degree of restriction on VOC in products is typically related to local environmental needs.

Focusing on the VOC content of the either ingredients or the laundry products themselves would be of little or no value for products disposed into wastewater treatment systems, which occurs for many laundry products. The VOC content of such products does not equate to high emissions. Because these products are generally intended to be used in water solutions, VOCs which have a high affinity for water (i.e., low Henry's Law

constant) are predominantly used. The industry's focus on the use of biodegradable organic compounds results in VOCs being broken down having the opportunity to be emitted. Therefore, the potential emissions of VOCs from laundry products are dependent on the use of the product, how it is disposed, and the physical, chemical and biological attributes of the VOC, none of which are captured by identification of the VOC and its concentration in individual ingredients. Specifically, for product disposed down the drain, detailed studies demonstrate that only negligible levels are emitted due to the biodegradation of the VOCs used in these products.

Green Seal should consult the rules as applied by CARB, EPA and other regulatory bodies in determining VOC levels and align the proposed standard with those rules specific to each product category within the scope of this standard.

To the extent there are any effects on humans or the environment of particular ingredients, they should be considered in the context of a risk assessment.

Dyes or Fragrances

Comment:

There is no need to separate dyes and fragrances out from other ingredients. The same rules that apply to all ingredients should be applied to these ingredients.

Comment:

Dyes or fragrances should be natural.

Comment:

Dyes and fragrances are integral for both customer acceptance and product safety. Customers may require the fragrance to mask other malodors in the environment, especially Health Care and Long term care. The color of a product acts as a quick, language-free identification technique in the I&I sector where many non-english speakers are employed.

Green Seal must be careful about restriction of dye types for laundry products. The colorants must be non-staining to fabrics, and many natural dyes will quickly stain fabrics. Dyes and fragrances should not be subject to "special" criteria, but rather should be treated as any other ingredient in the formulation.

Comment:

Fragrances are essential ingredients in products, including non-scented products that contain fragrances to mask malodors. Green Seal should note the relatively low levels of these ingredients present in cleaning products and the low likelihood that they could cause harm during handling and use of end products.

Therefore, no criteria for these ingredients are appropriate in this proposed standard.

Packaging

Comment:

Use of biodegradable plastics and refillable plastic containers should be encouraged and should not be restricted by the need for post consumer material. Further, there should be some benefit to reductions in packaging or use of novel materials that have environmental or consumer benefits. Package weights should be considered relative to the number of loads of wash contained.

Comment:

Packaging should contain recycled content to the extent possible, consistent with good packaging appearance and performance. Packaging should be recyclable where facilities exist.

Comment:

Packaging that is designed for use with automated dispensing systems is preferred in the I&I market for enhanced safety and efficiency. Packaging that limits or prevents direct contact with the formulation is also preferred. Product forms that require less total packaging or should be considered preferential due to more efficient transportation, which reduces fossil fuel consumption and greenhouse gas emission.

Innovative systems-based solutions that reduce the risk of exposure are preferred. Automated dosing in I&I additionally provides consistent, accurate dispensing and reduces over-use.

Packaging materials are integral for safely delivering any chemical product, regardless of the hazards posed by that chemistry. Many effective strategies currently exist for minimizing the footprint of packaging materials, including source reduction, incorporation of post-consumer material, reuse, and recycling. These methods each have benefits and trade-offs. Green seal should continue to allow flexibility and choice in packaging strategies to encourage novel solutions.

As in GS-37 revision 4, packaging that limits exposure to the concentrated product should affect how applicable criteria are evaluated (e.g. corrosivity).

Consumer Education

Comment:

Green Seal should consider labeling guidelines as the use of a seal might be misconstrued to connote absolute human safety. This could result in less cautious use of the products resulting in exposure and potential effects on sensitive populations. Consumers should always use and store cleaning products responsibly. They should always be kept out of reach of children, and always used according to label directions. Improper use and storage could lead to unfortunate consequences if consumers start taking these products

for granted. The term non-toxic (as used in GS-37 for example) implies that no serious harm could come under any misuse scenario. If consumers are given the impression that these products are non-toxic, then some will use less caution with them.

Comment:

Regular, effective training of I&I laundry room staff insures optimized laundry processes, which results in financially and environmentally efficient operation. Such training is most effective on a semi-annual or quarterly basis, and includes instruction on safe product handling practices, effective dosing and wash cycle programming, sorting and spotting practices to reduce rewash, and good hygienic practices.

General Comments

Comment:

Sustainability – Products are produced in manufacturing and formulation plants. Any benefit an ecolabel product has can be eliminated if appropriate procedures are not used to produce the ingredients and formulate the product. It is likely beyond the scope of GS-48 to document the requirements of the ingredient production or the specifications of the various formulation plants. However, GS-48 can recognize companies which have a track record of acting as a good corporate citizen and have been recognized for its sustainability programs. For example, the corporation should have a published and readily available sustainability policy with medium and long term goals and the corporation should be a recognized leader in sustainability.

Use LCA to support product decisions and evaluate overall product acceptability – Much of the environmental and human health issues associated with a product comes during the production, use, and disposal phases of the product and its package. These phases of the product's life-cycle are not captured in most standards. Life-cycle analysis (LCA) offers an approach to quantify the benefits and costs that products impose on the environment throughout the life-cycle of the product. LCA can be used to document the benefits of innovative products like concentrated products (reduced transportation costs), products that use less water, create less solid waste, use less energy to produce, result in lower emissions of hazardous waste, CO₂ and other greenhouse gases, or use less energy in the use phase. LCA analysis should be considered as a tool to weigh the benefits a product brings to the environment and human health as a whole.

Product Innovation – Environmental standards need to be progressive and allow for product innovation. The standard needs to be flexible to allow great ideas that may not fit within strict standards to be recognized and succeed. When a break-through product innovation is proposed and supported with appropriate studies, there should be a system to award an exemption for certain criteria to allow it to receive a seal. The product innovation would have to be supported by life-cycle assessment demonstrating its sustainability benefits.

Comment:

We believe that ignoring exposure- and hazard-based risk assessment does not provide environmental or human safety benefit, and in fact, could harm innovation, hampering the design of products which would provide a safety benefit. If the criteria in the standard are hazard-based only, and the limits or cut-off values are not justified by any meaningful scientific rationale, We believe the standard would not afford any environmental benefit. Further, a standard based on hazard alone would provide a much lower level of safety and environmental protection than exposure and risk-based safety assessment methodology widely used by the soap and detergent industry to assess safety of products on a routine basis. Exposure and risk-based assessment often considers many more endpoints, including sorption, wastewater treatment removal, overall exposure (total volumes emitted to the environment and concentration at target sites), long-term toxicity, bioaccumulation, etc. Background materials and examples of these assessments can be viewed at:

http://cleaning101.com/files/Exposure_and_Risk_Screening_Methods_for_Consumer_Product_Ingredients.pdf

<http://www.sdahq.org/AMINEOXIDES/>

<http://www.heraproject.com/Index.cfm>

<http://www.heraproject.com/RiskAssessment.cfm>