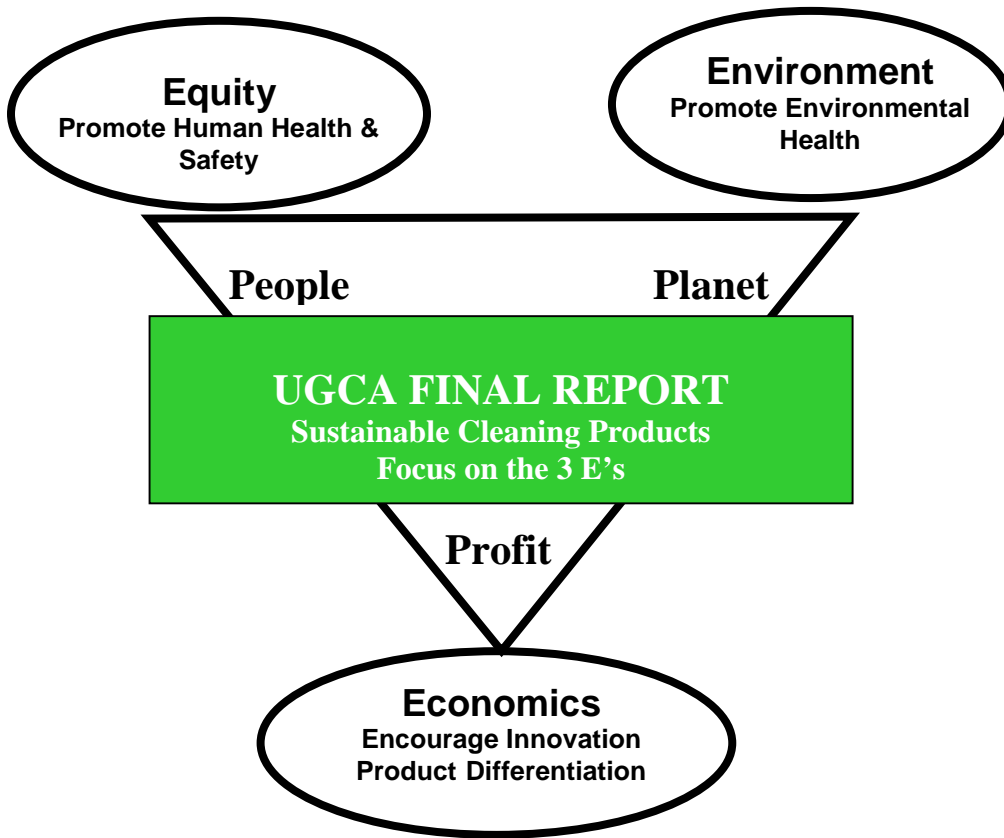


FINAL REPORT

UNIFIED GREEN CLEANING ALLIANCE

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Disclaimer

This report represents the consensus of the Unified Green Cleaning Alliance and does not necessarily reflect the opinion of any one participant or the project funders.

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1.0 EXECUTIVE SUMMARY

The Unified Green Cleaning Alliance (UGCA) was convened as a collaborative effort between individuals primarily from Oregon and Washington to identify the attributes of industrial and institutional cleaning products that will support environmental, economic and community sustainability in the Pacific Northwest. This report describes the charter, activities, conclusions and recommendations of the UGCA in hope that our findings will generate activities leading to increased awareness by purchasers and users, continued formulation of all cleaning products toward those that are benign towards human health and the environment, and opportunities in the marketplace for innovative businesses to differentiate themselves based on criteria that are consistent with the goals of sustainability in the area of industrial and institutional cleaning. The results of the six half-day meetings of the Unified Green Cleaning Alliance include a list of desirable attributes for sustainable cleaning products and practices (Table II). In addition, a number of recommendations and conclusions were made that UGCA feels will advance current practices for formulating, certifying, innovating and marketing sustainable cleaning products and advancing sustainable cleaning practices. A summary of the recommendations follows:

- There is a need for the development of a consensus-based sustainable cleaning products and practices standard that goes beyond current definitions and criteria used to define environmentally preferable cleaning products to include expanded health, safety and social equity attributes. There is a need to promote sustainability, which is a broader concept than environmental preference.
- There is a need to expand the number of product categories available for certification.
- There is value in designing a product certification system that uses a credit, point or tier system to allow applicants to earn points for going beyond mandatory criteria and incorporating preferred attributes into the product. The goal of this approach is to support innovation and product differentiation within industry.
- There is a need for a publicly available database of information on the potential human health and environmental impacts of cleaning product ingredients that would support product certification, formulation and purchasing.
- There is a need for simple and reliable ways to identify sustainable cleaning products and practices. Eco-labels and full ingredient disclosure (with supporting information on potential health and environmental impacts) are two valuable ways to allow purchasers and users to make informed decisions.
- Certification methods and processes should be reliable, affordable, equitable and accessible. There should be multiple avenues for demonstrating compliance. Use of a qualified, neutral, independent third-party certifier is preferred.
- There is a need to improve the Material Safety Data Sheet (MSDS) format to include more information and to be more consistent. Adoption of the ANSI standard for MSDSs is recommended to begin improving the value of MSDSs to purchasers and users.

2.0 UNIFIED GREEN CLEANING ALLIANCE – VITAL STATISTICS

2.1 WHAT IS THE UGCA?

The Unified Green Cleaning Alliance (UGCA) is a voluntary alliance of individuals representing all segments of the cleaning industry and/or those with an interest in the impact of industrial and institutional cleaning products on human and environmental health. Members of the UGCA include public and private purchasers, formulators, manufacturers, distributors, policymakers, environmental and sustainability advocates, building owners, property managers, scientists, cleaning contractors, safety directors, custodial/housekeeping managers and facilities managers from Oregon or Washington. The UGCA was initially formed as a collaborative effort to consider the regional needs of the Pacific Northwestern United States. Participation was expanded to include the voices of interested stakeholders from outside that regional area. Voting was restricted to members from the Pacific Northwest and there was one vote permitted per organization.

2.2 WHY WAS THE UGCA CREATED?

1. Identify a set of attributes and criteria that can be used to distinguish environmentally preferable and sustainable cleaning products with a focus on the Pacific Northwest;
2. Determine how these products will be verified, evaluated and identified with respect to the criteria;
3. Determine how this program will be disseminated and maintained;
4. Stimulate competition among stakeholders to encourage development of sustainable and green cleaning products and practices;
5. Raise consumer awareness about sustainable and green cleaning and its benefits;
6. Recognize environmental leadership in the cleaning industry;
7. Promote a holistic approach to the cleaning process;
8. Prepare a written report including recommendations and submit to EPA.

Ingredients, packaging, life-cycle assessment and life-cycle cost are all important components of an effective commitment to environmentally preferable and sustainable cleaning products. Thus, cleaning products must be manufactured, transported, stored, used and disposed of in ways that will protect our environment and use resources to meet current needs while ensuring that adequate resources are available for future generations. The formation of the UGCA is designed to help meet this objective.

UGCA is concerned about injuries to professional cleaning workers associated with the commercial cleaning products they use. Cause for this concern can be illustrated with workers' compensation data adapted from Washington State that indicates 6% of janitors are injured by the commercial cleaning products they use. Statistics indicate that 20% of these injuries are serious burns to the eyes and skin. It is estimated that American businesses and organizations annually pay more than \$75 million for medical expenses and lost time wages due to chemical injuries to janitors. (*Source: Janitorial Products*

Please see text of the **UGCA Charter** in Appendix I.

2.3 UGCA FUNDERS AND CONVENERERS

This project was funded by the Environmental Protection Agency's Design for the Environment (DfE) Program - a voluntary pollution prevention partnership that works with small and medium-sized enterprises (SMEs) to help and encourage them to integrate health and environmental considerations into business decisions and practices. Working with formulator companies and other interested parties to improve the human health and environmental profiles of commercial cleaning formulations is an integral part of the DfE Program's strategy to institute environmental-based decision-making and reduce pollution. The DfE Program partners with manufacturers and formulators to encourage development of more environmentally preferable and sustainable cleaning products.

In contrast, another program of the EPA, the Environmentally Preferable Purchasing (EPP) Program, works primarily with government purchasers to encourage and promote government purchasing of environmentally preferable cleaning products. The efforts of these two groups are complementary and the development of more sustainable cleaning products and practices is well served when these two sectors share expertise and the perspectives of the stakeholders they represent.

The Zero Waste Alliance (ZWA), based in Portland, Oregon, is a organization dedicated to advancing sustainable community development through zero waste strategies and green chemistry. Dr. Lauren Heine of the ZWA coordinated the meetings including education about the health and environmental issues associated with cleaning products. Technical experts were invited as needed to enhance the discussion and resolution of key issues. Because the science that underlies the identification of impacts of cleaning chemicals to human and environmental health is complex and involves differing degrees of uncertainty, it was important to pull together credible and defensible scientific information. ZWA also prepared UGCA reports and hosted the website.

There were no additional supporting funds for this project. Members and participants made valuable in-kind contributions of their time. Special commendations go to those participants who drove or flew long distances to meetings to serve as participants and/or speakers. In addition members and participants contributed meeting space and sponsorship of coffee, refreshments and lunches. UGCA would like to thank the following people and organizations for providing meeting space and for hosting lunches for the group: PGE Earth Advantage National Facility (member Kim Hughes), Nike, Inc. (member Lonny Knabe), GSA (members, Paul Gallegos, Jim Flewellen, Barbara Roberson), member Bill Halabi of OR DAS for arranging room rental at the Oregon State Capitol building, Evergreen State College (member George Leago), 3M Corporation (participant John Marmar), Coastwide Laboratories (member Grant Watkinson), Marfield Scott Agency (member Scott Casey), Northwest Center (participant George Twiss), Willamette University (member James Berndt), Dynamic Research, Inc. (member Dale

Burson), and JohnsonDiversey, Inc. (participant Dr. Robert Israel). UGCA would also like to thank Roger McFadden V.P. of Technical Services Coastwide Laboratories and former Chairman of the Cleaning and Coatings Workgroup of Oregon Governor Kitzhaber's Sustainable Supplier Council for his efforts in getting the UGCA started. The estimated monetary value of contributions including the meeting space and lunch sponsorships is \$4,700.

2.4 UGCA FACILITATOR

Dr. Marsha Willard is cofounder of Axis Performance Advisors, a Northwest-based consulting firm founded in 1990. Axis's services include management consulting, training and facilitation skills to help organizations find responsible solutions that meet all stakeholder needs: for owners, customers, employees, communities and the environment. The principals of Axis have co-authored five practical business books on such topics as teamwork, trust, work redesign and quality. They are recognized experts in the implementation of sustainability. Their Sustainability Series™ booklets show organizations how to simultaneously improve their financial, social and environmental performance.

2.5 UGCA STAKEHOLDERS: MEMBERS, PARTICIPANTS and EXPERT SPEAKERS

UGCA members were solicited from Oregon and Washington from a broad group of stakeholders with professional responsibilities or expertise relevant to the development of green and/or sustainable cleaning products. Membership was contingent in part on whether or not the organization maintained facilities in Oregon or Washington. Prior to Meeting I, we communicated with one individual from the East Coast who had exceptionally relevant experience and initially welcomed his participation. After Meeting I, the UGCA was surprised by a flood of interest in the project from outside of the region, and decided to set rigid ground rules for membership in order to avoid being overwhelmed. The initial set of ground rules excluded participants who were not members.

The U.S. EPA, the primary funder of the UGCA project, informed us that federally funded projects must meet the criteria of an open meeting and that all meetings must be open to observers. One meeting format suggested by EPA was to create a 20-minute comment period at the end of the meeting to allow observers to comment and ask questions for 3-5 minutes each. UGCA adopted this format for Meeting III. After that meeting it occurred to us that participants had valuable contributions that were less relevant when deferred to the end of the meeting. Therefore, starting with Meeting IV, the UGCA decided to open the discussion to all members and participants but to limit voting to members (one vote/organization). In addition, Zero Waste Alliance created a website to provide unrestricted access to agendas, meeting summaries, presentations and other relevant materials from the meetings. (See Appendix II for list of members and participants.)

There were eight expert speakers who presented at four of the six workshops. Electronic copies of all but one of the presentations are available from the UGCA website at <http://www.zerowaste.org/ugca.htm>. The speakers and their topics are outlined below:

**UGCA Presentations
Table I**

Speaker	Organization	Topics and Panels
Scot Case	Center for a New American Dream Tacoma Park, MD	“Cleaning Products Working Group: Resolving Traditional Challenges; Moving Ahead”
Dr. David Chandler	3M Pharmaceuticals Minneapolis, MN	“Three Rules of Toxicology”
Dr. Philip Dickey	Washington Toxics Coalition Seattle, WA	“Troubling Bubbles: Alkylphenol Ethoxylate Surfactants”
David DiFiore	U.S. EPA Design for the Environment Program Washington, D.C.	“Design for the Environment: Formulator Approach”
Douglas Fifield	Tennant Company Minneapolis, MN	Formulator/Manufacturer Panel*
Dr. Lauren Heine	Zero Waste Alliance Portland, OR	“Overview of Environmental Impacts”
Dr. Robert Israel	Johnson Diversey Sturtevant, WI	Formulator/Manufacturer Panel
David Kimball	Zero Waste Alliance Portland, OR	“Overview of Environmental Impacts”
John Marmar	3M Commercial Care Division Minneapolis, MN	Formulator/Manufacturer Panel
Roger McFadden	Coastwide Laboratories Wilsonville, OR	“Greening the Cleaning Process” and Formulator/Manufacturer Panel
Mark Petruzzi	Green Seal Washington, D.C.	“Ecolabeling, Environmental Standards and Certification. A Green Seal Guided Tour.”
Jim Rimer	Bi-O-Kleen Industries, Inc. Vancouver, WA	Formulator/Manufacturer Panel
Kirsten Ritchie	Scientific Certification Systems Emeryville, CA	“Trends and Insights on Environmental Certification”

* Formulator/Manufacturer Panel was moderated by Dr. Marsha Willard

2.6 UGCA MEETING GUIDELINES

A consensus-based format was selected and followed throughout the entire process. A list of guidelines was agreed upon by the alliance and the facilitator carefully complied with the guidelines throughout the process.

1. Consensus is difficult but important.
2. Consensus does not mean unanimity.
3. We want to come to a conclusion that everyone can move forward with.
4. We need to identify all of the needs and interests.
5. Minority views will be acknowledged.
6. Participants are asked to focus on the needs of those areas they represent.

2.7 UGCA MEETING GROUND RULES

1. Start on time and end on time
2. Attend and participate
3. Every view is valid
4. Don't let perfect get in the way

2.8 UGCA VALUES AND PRINCIPLES

1. UGCA believes a sustainable community uses its resources to meet current needs while ensuring that adequate resources are available for future generations.
2. UGCA believes that cleaning practices, processes and products play an important role in the overall health of the occupants of buildings.
3. UGCA believes cleaning is not a simple action of removing contamination, but also includes a structured process and is an important part of environmental management.
4. UGCA believes the concept of greening the cleaning process is more than greening a cleaning product. UGCA believes in a holistic approach to greening the cleaning process to include product, ingredients, life-cycle assessment, application, use, training, worker safety, building occupant safety, indoor air quality and disposal.
5. UGCA believes cleaning processes, planning, procedures, people, chemical management, education and training are as important as the cleaning product itself when greening the cleaning program.
6. UGCA believes that current cleaning procedures, processes, programs and products can be designed to contribute to maintaining and converting new and existing buildings into high performance, sustainable facilities.

7. UGCA believes that many current cleaning programs in commercial buildings do not include green or sustainable provisions.
8. UGCA believes that many current commercial cleaning products contain ingredients or are manufactured using processes that may be harmful to human or environmental health.
9. UGCA believes that commercial cleaning products can be made safer for workers, building occupants and our environment.
10. UGCA believes that there is a need for a sustainable cleaning product standard that includes provisions for health, safety, environment and social equity.
11. UGCA believes that standards for sustainable cleaning products should be equitable in the sense that any manufacturer or formulator regardless of their size or location should be able if they choose to participate in manufacturing products consistent with the standard.
12. UGCA believes that the certification process for verification of any green or sustainable cleaning product standard should encourage organizations to participate and be realistic, flexible and affordable.
13. UGCA believes that purchasers of cleaning products for commercial buildings desire a reliable and simple method of verifying the claims of a green or sustainable cleaning product.

2.9 KEY DEFINITIONS AND TERMS

What follows is a list of words and definitions as they pertain to this report. The UGCA adopted many of the definitions of American Society for Testing and Materials (ASTM) as they relate to standards.

Attribute—A quality or characteristic inherent in or ascribed to something.

Certification— To confirm formally as true, accurate or genuine. The ability to effectively differentiate a “green” product and achieve a reliable method often requires a private or public certification system. Policies are needed in the following areas to implement the necessary elements of a certification system.

- Standard setting
- Monitoring performance
- Enforcement

Criterion—A standard, rule or test on which a judgment or decision can be based.

Greenwashing— Untrue, misleading or exaggerated claims about the environmental benignness of a product, process or service.

Guide – A series of instructions or directives that do not recommend or require a specific course of action. A practice establishes a general usage principle; a guide simply suggests an approach. The purpose of a guide is to offer direction, based upon consensus perspective, but not to establish a set procedure. A guide is intended to improve the awareness of the user about various procedures or subject areas and to provide information to help in the development of subsequent evaluations and standardizations.

Practice – a definitive procedure for performing one or more specific operations or functions that does not produce a test result. A practice is not a downgraded test method. Examples of practices include procedures for conducting inter-laboratory testing programs or other statistical procedures; for writing statements on sampling or precision and bias; and for selection, preparation, application, inspection, necessary precautions for use or disposal, installation, maintenance, and operation of testing equipment.

Specification – a precise statement of a set of requirements to be satisfied by a material, product, system, or service that indicates the procedures for determining whether each of the requirements is satisfied. It is desirable to express the requirements numerically in terms of appropriate units together with their limits.

Standard— a document developed and established using consensus-based processes that defines requirements for products, services, systems and/or organizations and which can be assessed based on criteria that reflect whether or not the requirements are fulfilled.

Standardize – To evaluate by comparing with a standard.

Sustainable product – The following definition is based on the principles of The Natural Step (<http://www.naturalstep.org/learn/principles.php>).

A sustainable product is one that does not...

- Contribute to accumulation of manmade substances or substances from the earth's crust in the biosphere;
- Contribute to the degradation of nature (species or habitat);
- Impede the ability of people to survive and thrive; or
- Unfairly or inefficiently consume resources.

Sustainability optimizes consideration of the environment, economics and social equity.

Terminology – a body of words comprising definitions of terms; descriptions of terms; explanations of symbols, abbreviations or acronyms.

Test Method – a definitive procedure for the identification, measurement and evaluation of one or more qualities, characteristics, or properties of a material, product or service that produces a test result.

Validation—Confirmation of accuracy. Marking with an indication of official sanction. Corroboration

Verification—A confirmation of truth or authority. The evidence for such a confirmation. A formal assertion of validity.

3.0 UNIFIED GREEN CLEANING ALLIANCE – PROCESS

3.1 SUMMARY OF MEETINGS

Six half-day meetings or workshops were convened. Four were held in Oregon and two in Washington in order to more fairly distribute the burden of travel. The agendas for all meetings, copies of Powerpoint presentations and other relevant documents are available on the UGCA website at <http://www.zerowaste.org/ugca.htm>. The goal of the meeting sequence was to:

- Identify key stakeholder issues, values and expectations for involvement in the UGCA.
- Engage participants in education about sustainability and the drivers and significant environmental and human health issues for creating green or sustainable cleaning products.
- Identify those attributes that would define green or sustainable products.
- Consider different purchasing, certification and verification models.

Marsha Willard presented to the group on the principles of sustainability. Expert speakers were brought in to provide insight into human toxicology and the potential impacts of cleaning products on human health and the environment. (See Table I for speakers and presentation topics.)

The group compiled a list of attributes drawn from national and international product certification programs, environmentally preferable cleaning product purchasing programs and brainstorming efforts based on considerations of sustainability that we called the ‘Straw Man Criteria’. While the core of the ‘Straw Man Criteria’ was developed with support of staff at EPA’s Design for the Environment Program, the list expanded as UGCA members added criteria that they believed should be included but were not. We used a ‘voting’ process to prioritize those attributes of greatest significance to UGCA in a series of four rounds of voting. We also met in groups to determine whether or not any attributes were excluded that the group felt were necessary to include, or attributes included that the group felt were not feasible.

Once the group established its priorities, we invited representatives from organizations that create standards, certify products and work to support government purchasers in

environmentally preferable purchasing efforts to discuss their programs and activities. This gave participants the opportunity to view their prioritized attributes in the context of existing programs and to consider diverse approaches to identifying, verifying and certifying attributes.

While there was opportunity for discussion during all of the meetings, the initial meetings were heavily weighted toward education and the latter meetings were weighted toward facilitated exercises and discussion. After Meeting V, a draft report was created and distributed to the group. The report served as a point of departure for discussion at Meeting VI of the most significant conclusions and recommendations to come from the UGCA meetings. Comments from Meeting VI were incorporated into a DRAFT FINAL REPORT document and redistributed to the group. Following an extended comment period, recommended changes were once again incorporated into this FINAL REPORT for submission to EPA. Please see agendas from Meetings I-VI for details on the program, speakers and facilitated exercises at (www.zerowaste.org/ugca.htm#meetings). Comments ranged from editorial suggestions to extensive written exchanges. Several excerpts from the comments are reproduced in Appendices III-VI. These excerpts were selected for inclusion in the appendices because they provide valuable information or insights or illustrate important areas of discussion but do not fit within the framework of the project report. Copies of all DRAFT FINAL REPORT comments are available upon request from Lauren Heine.

The UGCA project and related green cleaning efforts spawned a number of articles in industry magazines. There were as many as 12 articles mentioning the UGCA in Cleaning Management Magazine online (www.cmmonline.com). Additional articles have also appeared in Inside Supply Management, Building Services Management, Maintenance Solutions, Cleaning Management Magazine, Precision Cleaning, BSCAI Services and Executive Housekeeping Today. The project attracted particular attention from cleaning product formulators and manufacturers and organizations involved in earlier efforts to certify and promote environmentally preferable cleaning products. It also generated some controversy and confusion due to reporting errors. In spite of the errors, the articles appeared to foster further awareness and momentum for green cleaning.

The UGCA recently gained national recognition when UGCA coordinator Lauren Heine, UGCA member Roger McFadden and UGCA participants Mark Petruzzi, Kirsten Ritchie and David DiFiore were invited to participate in a March 2003 half-day green cleaning forum and panel discussion hosted by the International Sanitary Supply Association (ISSA) in Washington D.C. Lauren presented information about the UGCA efforts and recommendations, Roger made the business case for investing in sustainable cleaning products and practices, Mark discussed Green Seal's GS-37 and the accompanying certification, Kirsten talked about Scientific Certification System's certification programs and approaches to verifying claims, and David DiFiore introduced the attendees to the U.S. EPA's Design for the Environment Program Formulator Initiative.

The six UGCA meetings provided an excellent opportunity for a broad spectrum of stakeholders primarily from Oregon and Washington to learn about sustainable and green

cleaning products and to hear the perspectives of individuals from other stakeholder groups. For example, we convened a “Manufacturers Panel” at Meeting IV to discuss the drivers and obstacles to developing green and sustainable cleaning products in their organizations. It was evident that the group shared the common desire to see these products move into the mainstream market. However, there were different opinions about the most effective ways to foster the necessary development and identification of these products and how to more equitably distribute the costs and benefits. For example, one of the larger manufacturers strongly favored a national standard while others were favorable toward a standard that would accommodate regional preferences.

While much was accomplished during the six meetings, there was not enough time to establish the technical details needed to define criteria for the attributes selected by the group or to create a working model for a standard. Rather we identified some key conclusions and needs that we believe would support the development and adoption of green and sustainable cleaning products. A sustainable cleaning product and practices standard could be developed in different ways. It could be developed as a new standard with certifiable criteria that go beyond environmentally preferable toward sustainability. The standard could also be developed as a guide to support product design and development. Finally, it is hoped that UGCA efforts and recommendations will benefit existing certification programs as their standards come up for revision. In the remainder of this document we describe key learnings, conclusions and recommendations generated by the UGCA.

3.2 UGCA SELECTED ATTRIBUTES

The UGCA identified a set of attributes that should be included in a Sustainable Cleaning Products and Practices Standard. The attributes identified by UGCA were compared to existing sets of national and international environmentally preferable cleaning product standards and criteria from purchasing programs. There was some overlap with the existing standards, purchasing criteria and UGCA attributes. However, UGCA members identified a more comprehensive set of attributes than any current standards.

The UGCA list of attributes differs from other green or environmentally preferable standards in its provisions to include enhanced health and safety, and social equity components in addition to environmental attributes. Significant points of departure from other standards and purchasing criteria include exclusion of endocrine disruptors as a class, exclusion of products containing 2-butoxyethanol, requirement for use of ANSI formatted material safety data sheets (MSDSs) to support consistency and improved access to information, identification of fragrances and their source on the MSDS, preference for full ingredient disclosure (see minority comments in Appendix III), preference for products manufactured by companies that have a company-wide environmental or sustainability policy and demonstrate their commitment to continual improvement, and the requirement that the certification methods should be affordable, equitable and accessible.

Issues were raised with commonly used definitions of certain criteria. With respect to corrosivity, it is necessary to harmonize definitions by U.S. EPA, OSHA, and ODOT and also to include recent updates to OECD methods that permit use of non-animal testing methods. Another UGCA recommendation was the use of ultimate biodegradation to replace ready biodegradation as the criterion for biodegradability. Whether the biodegradation requirement would apply to individual ingredients or to the product as a whole depends on whether or not the data on the individual ingredients are available. If not, then the product as a whole will need to be tested.

Screening of chemical ingredients is based upon defined environmental and human health and testing criteria. UGCA recommends that when specific screening criteria are defined, a list of those chemicals commonly used in cleaning products that would be screened out by the criteria should be included to help make the process more transparent.

The attributes selected by the UGCA members are listed in Table II:

List of UGCA Selected Attributes Table II

HUMAN HEALTH ATTRIBUTES

- HH 1** Sustainable Cleaning Products **MUST NOT** be toxic to humans. A product is considered acutely toxic when LD50 <2,000 mg/kg, or LC50 (inhalation) <20 mg/L.
- HH 2** Sustainable Cleaning Products **MUST NOT** be carcinogenic or contain carcinogens.
- HH 3** Sustainable Cleaning Products **MUST NOT** be teratogenic or contain teratogens.
- HH 4** Sustainable Cleaning Products **MUST NOT** be mutagenic or contain mutagens.
- HH 5** Sustainable Cleaning Products **MUST NOT** be skin or eye irritants. (Not corrosive to skin or eyes when concentrated, not an irritant when diluted for use) (Use non-animal tests. Harmonize DOT, EPA, OSHA regulations.)
- HH 6** Sustainable Cleaning Products **MUST NOT** cause skin sensitization.
- HH 7** Sustainable Cleaning Products **MUST** have a low potential to be absorbed by the skin.
- HH 8** Sustainable Cleaning Products **MUST NOT** cause respiratory irritation.

ENVIRONMENTAL HEALTH ATTRIBUTES

- EH 1** Sustainable Cleaning Products **MUST NOT** be regulated as hazardous waste (WA=Dangerous Waste).
- EH 2** Sustainable Cleaning Products **MUST** be biodegradable (Ultimate biodegradability was recommended as the test method)
- EH3** Sustainable Cleaning Products **MUST NOT** be toxic to Aquatic Life (Acute LC50 for algae, daphnia, or fish greater than or equal to 100 mg/L).
- EH4** Sustainable Cleaning Products **MUST NOT** contain endocrine disruptors including but not limited to all phthalates.
- EH 4** Sustainable Cleaning Products **MUST NOT** bioaccumulate. (This attribute may not be necessary if Ultimate Biodegradability is adopted as a test method.)
- EH 6** Sustainable Cleaning Products **MUST NOT** contain ozone depleting substances.
- EH 7** Sustainable Cleaning Products **MUST** have acceptable VOC levels. (CARB metrics were recommended.)

- EH 8** Sustainable Cleaning Products **MUST NOT** contain alkylphenol ethoxylates (APEs).
- EH 9** Sustainable Cleaning Products **MUST NOT** contain 2-butoxyethanol.
- EH 10** Sustainable Cleaning Products **MUST NOT** contain toxic metals including arsenic, lead, cadmium, cobalt, chromium, mercury, nickel, or selenium. (The addition of zinc was also recommended.)
- EH 11** All Sustainable Cleaning Products **MUST** comply with phosphate and phosphate derivative limits as defined for laundry detergents by the states of Oregon and Washington (0.5% P by weight).

SAFETY, PACKAGING AND LABELING ATTRIBUTES

- SF 1** Sustainable Cleaning Products **MUST** be labeled for proper use including recommendations for protective equipment.
- SF 2** Sustainable Cleaning Products **MUST** include appropriate safety training.
- SF 3** Sustainable Cleaning Products **MUST** include ANSI formatted Material Safety Data Sheets (MSDS).
- SF 4** Sustainable Cleaning Product primary packaging **MUST** be recyclable. No chlorinated packaging (ie: PVC).
- SF 5** Sustainable Cleaning Products **MUST** identify fragrances on MSDSs including the source of the fragrance (i.e., natural extract or synthetic). Fragrances are defined as odor-containing substances that do not contribute to the efficacy of the product. Products with no added fragrances are preferred.

PERFORMANCE, QUALITY AND CERTIFICATION ATTRIBUTES

- PQ 1** Sustainable Cleaning Products **MUST** be effective when diluted.
- PQ 2** Sustainable Cleaning Products **MUST** include full disclosure of ingredients either on the MSDS or to a 3rd party certifier. Full disclosure of ingredients on MSDSs is preferred and reporting of concentration ranges is permitted.
- PQ 3** Products by manufacturers or distributors with an environmental or sustainability policy that demonstrate continual improvement **ARE PREFERRED**.
- PQ 4** Certification methods and processes **MUST** be affordable, equitable and accessible.

Proposed attribute **HH 9 Sustainable Cleaning Products **MUST NOT** contain neurotoxins (Acceptance of this attribute is contingent on review for feasibility)

3.3 WHAT IS AN EFFECTIVE SUSTAINABLE CLEANING PRODUCT AND PRACTICES STANDARD?

UGCA believes an effective Sustainable Cleaning Products and Practices Standard should:

- Represent common viewpoints of stakeholders,
- Include producers, users, consumers and general interest groups,
- Be purely voluntary,
- Be intended to assist industry, government agencies and the general public,
- Not directly prohibit anyone from manufacturing, marketing or purchasing products, or using products, or procedures not conforming to the standard,
- Be subject to periodic review and revision by a responsible technical committee, and
- Be based on life cycle considerations.

In addition, UGCA believes that use of the Sustainable Cleaning Products and Practices Standard should:

- Promote sustainability and not just environmental benefits,
- Encourage continual improvement in product development,
- Be flexible enough to adapt with innovations, new information and new discoveries,
- Be inclusive (including cost which is an issue for small manufacturers),
- Recognize superior products and practices,
- Provide purchasers and users with confidence that the product meets the claimed criteria and is truly more sustainable and safe for humans and ecosystems,
- Clearly differentiate, when possible a green cleaning product and practice from a conventional cleaning product or practice, and
- Discourage greenwashing by requiring clearly defined and scientifically verified claims.

Finally, a standard should also:

- Be developed in an open, public process,
- Include a public comment period open to anyone who cares to comment,
- Specify detailed certification and verification procedures,
- Be peer reviewed,
- Not be developed by an entity with an inherent conflict of interest, and
- Have a transparent standard development process.²

² Text provided by Scot Case based on EPA recommendations and recommendations prepared by Consumer's Union, publisher of Consumer Reports.

4.0 KEY CONCLUSIONS

4.1 THERE IS A NEED FOR THE DEVELOPMENT OF A CONSENSUS-BASED SUSTAINABLE CLEANING PRODUCTS AND PRACTICES STANDARD THAT GOES BEYOND CURRENT ENVIRONMENTAL STANDARDS TO INCLUDE EXPANDED HEALTH, SAFETY AND SOCIAL EQUITY ATTRIBUTES

4.1.A MOVE BEYOND ENVIRONMENTALLY PREFERABLE TO SUSTAINABLE

UGCA believes there is a need to develop a sustainable cleaning products and practices standard that goes beyond the current definitions and criteria used to identify environmentally preferable cleaning products. There is a need to expand criteria to promote sustainability.

UGCA understands that government procurement regulations require the use of existing standards when they apply rather than developing new standards. The UGCA agrees with this concept and believes that the development of a sustainable cleaning product and practices standard as suggested in this report would not be contrary to this requirement. The UGCA recommendations for the design and development of a sustainable cleaning product and practices standard would raise the bar while promoting innovation.

UGCA believes that current environmental standards for environmentally preferable cleaning products should be integrated into a sustainable cleaning products and practices standard or vice versa. The proposed standard would build on and move beyond the environmental standards currently available to the government.

Sustainability was defined as balancing and optimizing the three components of environment, equity and economics. The standard should provide a challenging goal and ‘pull’ product development toward sustainability principles. A sustainable cleaning products and practices standard should be based on a set of attributes that goes beyond the current environmental standards and includes expanded health, safety and social equity attributes. Sustainable cleaning is not only what’s in the bottle, but includes the bottle itself, packaging, consideration of life cycle impacts including requirements for water, energy and labor allocations, the consumer’s right-to-know and even corporate responsibility as demonstrated by companies with environmental or sustainability policies. A sustainable cleaning products and practices standard should promote industry competition through product differentiation and innovation.

Currently available standards and purchasing criteria for environmentally preferable cleaning products are built on years of consensus work and contain a solid core of attributes. The UGCA would like to see important categories such as endocrine disruptors expanded to include the entire category and all phthalates, not just dibutyl phthalate. In addition, UGCA believes that an effective standard and purchasing criteria for environmentally preferable cleaning products should consider other aspects of product performance such as requirements for the use of water or energy.

The UGCA believes safety is a key issue for janitors and should be included as part of any sustainable cleaning products and practices standard. Attributes were identified that should be included in a sustainable cleaning standard to support safety. UGCA believes it is essential to identify high-risk cleaning work, to provide guidelines for safe handling, storage and use and methods for effectively communicating hazards to cleaning workers. Currently there are other non-product specific programs and efforts that relate to broader issues of cleaning and sustainability. Please see Appendix IV for a listing and description of related programs.

4.1.B DESIGN CERTIFICATION SYSTEM WITH INCENTIVES FOR CONTINUAL IMPROVEMENT AND INNOVATION

There is value in moving towards and exploring a product certification system that uses a credit, tier or point system to allow applicants to earn points for incorporating preferred attributes (e.g., U.S. Green Building Council's LEED Program or the EPP Purchasing Specifications developed by the State of Massachusetts and the Center for a New American Dream).

With a pass/fail approach to certification, there is no incentive to go beyond the criteria for passing because there is no recognition for superior performance. There is only one level of recognition. When the minimum requirements are met then the product is certified and an eco-label is awarded. The UGCA believes this does not encourage innovation and continual improvement. The pass/fail approach to certification does not help to compare products. It would be desirable to distinguish good products from better ones with respect to all aspects of the product lifecycle.

There is value in using both mandatory and preferred attributes in the standard. Mandatory attributes are appropriate for excluding obvious human and environmental health concerns. Preferred attributes can help promote innovation and continual improvement. Some attributes represent important categories of sustainability but should not be considered mandatory. Preferred attributes can create opportunities for manufacturers and formulators to shine in different areas without driving uniformity in product design and stifling innovation. For example, there may be a variety of packaging approaches that provide sustainability benefits. Credit should be given for innovative packaging as a category without necessarily prescribing the type of packaging. A credit or point system would be analogous to the U.S. Green Building Council's LEED Program whereby buildings earn points within categories such as water use, landscaping or energy use rather than being required to comply with prescriptive designs for plumbing, landscaping or heating/cooling equipment. Buildings can be LEED certified and further rated as Platinum, Silver or Bronze, encouraging continual improvement.

A standard should be flexible enough to adapt to innovations, new information and new discoveries such as new green chemistries. It should recognize products and processes that are more sustainable and high performance. There should be flexibility to recognize products that are superior because they meet and exceed current standards.

One related suggestion was to expand the use of third party certification to include not only product certification but also program certification. That would avoid the need for companies to take each product and/or product modification to a third party each time. Program certification with periodic auditing could serve the same purpose. This approach would allow for improvement without re-certification. NSF International is currently working on a product development-environmental management system standard for hard surface cleaners. It is unclear at this time how the product development standard would correlate with criteria such as those identified in Green Seal's GS-37 or by the UGCA.

4.1.C EXPAND PRODUCT CATEGORIES AVAILABLE FOR CERTIFICATION

There is a need to expand the product categories available for certification. Most other standards are limited to a small number of product types such as bathroom, glass and general-purpose cleaners. Current standards disregard a large volume of cleaning products such as wax strippers, carpet cleaners, floor cleaners, floor finishes, disinfectants, odor counteractants and toilet bowl cleaners. Many of these types of products typically contain a higher percentage of hazardous substances than bathroom, glass and general purpose cleaners and yet there are no environmentally preferable cleaning products standards for these products.

The standard should be broadly applicable to all chemical products used in commercial cleaning. A baseline set of pass/fail attributes for all products could be accompanied by a set of desirable attributes using some kind of point system to encourage innovation along different avenues of sustainable product design. For example, once the mandatory attributes are met, additional points could be gained for use of equipment that reuses water or requires less energy, or overall facility innovations such as the use of renewable energy in manufacturing operations. It may not be possible for all products to meet the criteria established for glass, general purpose and bathroom cleaners but the standard can still serve to guide development and reward progress toward a sustainable ideal.

4.2 THERE IS A NEED FOR A PUBLICLY AVAILABLE DATABASE OF INFORMATION ON THE HUMAN HEALTH AND ENVIRONMENTAL ASPECTS OF CLEANING PRODUCT INGREDIENTS THAT WOULD SUPPORT BOTH PRODUCT CERTIFICATION AND FORMULATION

There was consensus among UGCA members, especially manufacturers and formulators, that there is a need for a reliable database of information identifying environmental, health and safety profiles for chemicals used to formulate cleaning products. The current methods by which we collect information is scattered and fragmented and results in redundant testing, incomplete information and additional and unnecessary costs.

UGCA agreed that expecting formulators to bear the full cost of testing and verifying products is both unreasonable and unrealistic. Formulators would like to see the responsibility shared, especially with upstream chemical manufacturers.

A national database would support both certification and formulation. With respect to formulation, the database would allow a company seeking to develop sustainable cleaning products to take a precautionary approach by avoiding ingredients with problematic profiles. It would support sustainable product certification by enabling a company to fully disclose all ingredients and to extract the relevant environmental and human health profiles from the database to support their claims. In addition, it would support the work of certifying organizations that could use the information to verify manufacturer claims.

Current environmental product standards will certify a product without requiring the submitter to perform product tests if the manufacturer provides data from the literature demonstrating that the fully disclosed individual ingredients do not violate any of the criteria of the standard. UGCA believes this is an acceptable way to verify accurate information and reduce unnecessary costs for a company submitting a product and that the database would support such certification practices.

The U.S. EPA DfE Formulator Initiative plays an important role by providing human health and environmental profiles for ingredients based on literature reviews and modeling results. This is especially helpful where there are minimal data available in the scientific literature, such as for aquatic toxicity. The work of the EPA DfE Formulator Initiative is perceived as valuable and should be expanded.

There is a need to consider and continually update information on possible synergistic effects of chemicals combined in cleaning product formulations. Additive approaches may not accurately reflect the synergistic effects of some chemicals.

A national database would avoid redundant testing and the associated costs. Full disclosure of ingredients would allow reviewers to know whether or not a product meets preferable standards based on the ingredients.

Such a database would be improved by ongoing collaboration with the U.S. EPA's DfE Formulator Initiative to create an avenue to review new and 'green' chemicals. Where there is a lack of information, there needs to be a way to assess ingredients and to take a precautionary approach. This should help promote innovation and perhaps new business for manufacturers of 'green' chemicals.

In collaboration with the U.S. EPA's DfE Program, a steering committee should be established to determine how to populate the database and evaluate chemical ingredients. This could provide a framework for identifying 'green' or preferred ingredients. The database should include information on chemicals with 'green', or positive human health and environmental profiles along with the data that support the claims.

4.3 IDENTIFICATION OF SUSTAINABLE CLEANING PRODUCTS AND PRACTICES.

THERE IS A NEED FOR SIMPLE AND RELIABLE WAYS TO IDENTIFY SUSTAINABLE CLEANING PRODUCTS AND PRACTICES. ECO-LABELS AND FULL INGREDIENT DISCLOSURE ARE TWO VALUABLE WAYS TO ALLOW PURCHASERS TO MAKE INFORMED DECISIONS.

There is a need by purchasers of cleaning products to have a simple and reliable way to identify sustainable cleaning products. Sustainable cleaning product labels and/or claims must be trusted and third-party certification is one way to promote trust. The standard should provide purchasers and users with confidence that the product meets the claimed criteria and is truly more sustainable and safe for humans and ecosystems.

There is a need for full disclosure of chemical ingredients by the manufacturer to either the third-party certifier or the appropriate procurement and/or environmental, health and safety officials. While most members of the UGCA favored full ingredient disclosure on the MSDS with concentrations reported in ranges, we did not achieve consensus on this issue. The minority view argued that meeting the ANSI MSDS reporting requirements would be sufficient and that it would impose an unfair reporting burden on small companies to provide additional information. See comments in Appendix III. As a compromise, we agreed that full ingredient disclosure was an attribute of sustainable cleaning products and practices and that this requirement could be met by ingredient disclosure on the MSDS, to the appropriate procurement or environmental health and safety officials and/or to a third party certifier.

The majority of UGCA members felt that full ingredient disclosure on the MSDS and/or to the appropriate procurement and/or environmental, health, and safety officials is preferable to disclosure to only a third-party certifier. In the name of sustainability, customers should be allowed to make their own decisions about the products they are purchasing and know the constituents of the products they are buying. If the product meets green criteria and is marketed as such, transparency is important. There is precedence for this. The Food and Drug Administration (FDA) requires full disclosure of ingredients on all cosmetic product labels.

The development of a database of cleaning product ingredients with associated human health and environmental profiles would facilitate informed decision-making by purchasers, users and product certifiers; especially in conjunction with greater transparency of ingredients used in the formulation.

It is useful to have multiple tools to support selection of green and sustainable products. There is value in selecting products with an eco-label based on third party certification. There is also value in selecting products based on the constituents of the products. A combination of these two approaches is probably the most valuable and will depend on the purchaser and the reasons for concern about product ingredients and attributes.

4.4 CERTIFICATION METHODS AND PROCESSES SHOULD BE RELIABLE, AFFORDABLE, EQUITABLE AND ACCESSIBLE. THERE SHOULD BE MULTIPLE AVENUES FOR DEMONSTRATING COMPLIANCE. USE OF A QUALIFIED THIRD-PARTY CERTIFIER IS PREFERRED.

UGCA believes that any effective certification program for green and sustainable cleaning products should encourage innovation and continual improvement.

UGCA believes that current certification options should be expanded and that these options should be made widely known to all stakeholders. Certification requirements should be inclusive and must be affordable to both small and large companies. See the illustrative discussion of the issue of affordability and exclusivity in Appendix V.

UGCA believes the cost of certification is ultimately passed onto the consumer. While some additional cost is expected, it should not unfairly burden small and innovative companies. (See Appendix V.)

Certification costs currently exclude many small entrepreneurial businesses. This puts government purchasers into a difficult situation. They are guided to purchase environmentally preferable cleaning products and also encouraged to buy from small businesses when possible.

Small manufacturing and formulator businesses should be encouraged to demonstrate compliance with environmental standards and should not be placed at a disadvantage if they choose not to apply for an eco-label. UGCA believes it is important to demonstrate compliance with established criteria in a credible way and that obtaining a particular eco-label should be only one of several credible options.

UGCA believes it would be beneficial for U.S. EPA and governmental purchasers to clarify what they mean when they request that products meet established environmental standards.

UGCA believes that all companies that wish to comply with publicly available standards should be able to do so by demonstrating compliance by using any qualified, neutral third-party certifier. As an example, there are thousands of testing laboratories that can currently certify to ASTM, UL and ANSI standards throughout the world. (A list of ASTM approved laboratories is available at www.astm.org.)

Other ways to demonstrate compliance with current standards or equivalent criteria should also be encouraged. Some companies may have the resources to self-certify to such standards. However, the consensus of the UGCA was that neutral third party certification is preferred.

UGCA believes that paying for testing/demonstration that a product complies with the criteria of a standard and also paying for certification that the testing/demonstration was performed is redundant. This additional cost is traditionally passed on to the users and

purchasers, working against the expansion of environmentally preferable products into the marketplace.

UGCA believes that an acceptable third-party certification is one that is conducted by a qualified, neutral, independent third-party certifier. Ideally the standard developer and third-party certifier would be two separate organizations. Otherwise, there is an appearance of a conflict of interest.

It was suggested that companies demonstrating that their products have indeed met environmentally preferable criteria could be permitted to use the U.S. EPA's Design for the Environment (DfE) logo on their products and have the approved products listed on the EPA's EPP website. Please see discussion in Appendix VI that clarifies the potential use of the EPA's Design for the Environment logo.

A good example of an alternative avenue for demonstrating compliance with an EPP standard is provided by The Center for a New American Dream (CNAD). CNAD works with leading government purchasers in the area of environmentally preferable products to develop national purchasing criteria. The recent Commonwealth of Massachusetts RFR #GR016 for Environmentally Preferable Cleaning Products, which was developed as part of a nationwide workgroup of purchasers, adopted Green Seal's GS-37 standard as the core criteria, expanded product categories to include carpet cleaners, disinfectants, floor care products and hand soaps in addition to glass, general purpose and bathroom cleaners and added desirable criteria that included some additional attributes that broaden the scope toward the principles of sustainability. To qualify, manufacturers were required to provide information to verify that their products met the environmental criteria specified in the RFR. Bidders could submit eco-label certification (i.e. products with the Green Seal) or other independent third party verification. Alternatively bidders could submit company (in-house) or other independent lab test results. Bidders could also submit information from a literature search that demonstrated compliance with the specification for each ingredient. Qualifying products are listed on the CNAD website.

4.5 THERE IS A NEED TO IMPROVE THE MATERIAL SAFETY DATA SHEET (MSDS) FORMAT TO INCLUDE MORE INFORMATION AND TO BE MORE CONSISTENT

UGCA learned that most environmental, health and safety (EHS) reviews and audits rely primarily on the material safety data sheet (MSDS) information when reviewing a cleaning product. It was indicated that the MSDS is a document required by OSHA and does not require full disclosure of ingredients and currently lacks the depth of information needed to determine if a product is environmentally preferable. OSHA indicates that a very high percentage of MSDS prepared by companies contain inaccuracies and/or omit information.

UGCA believes that if MSDSs are used for determining environmental preference, then they should be made more consistent and informative. The ANSI standard for the MSDS was recommended as one option that should be considered because it accommodates

more information including toxicity, environmental and other EHS information currently not included on many other MSDS formats.

5.0 UGCA RECOMMENDATIONS FOR NEXT STEPS

The following recommendations are made without specifying how they should be implemented. It was suggested that an additional meeting of the UGCA should be convened in order to identify and select options for moving forward based on the recommendations.

5.1 BUILD THE SUSTAINABLE CLEANING PRODUCTS AND PRACTICES STANDARD

Further define the attributes, criteria, test methods, etc. for use in a sustainable cleaning products and practices standard.

Expand on the issues of sustainability in partnership between the UGCA and other groups.

Design a certification model that incorporates ideas on the use of a point system and/or tiers to help compare products, identify superior performance and measure continual improvement. Consider also a model that includes audits of product development practices.

5.2 BUILD A DATABASE CONTAINING HUMAN AND ENVIRONMENTAL IMPACT PROFILES OF CHEMICALS USED IN CLEANING PRODUCTS

Chemical ingredient profiles should be created to support decision making on sustainable product design, formulation, certification and purchasing. It was suggested that initially, the greatest need is for data that are currently scattered and incomplete; especially data on the biodegradability and aquatic toxicity of cleaning product ingredients. This would prevent redundant testing and associated costs.

Support the development of a framework for identifying ‘green’ and preferable chemicals and ingredients

Work with the U.S. EPA’s Design for the Environment Program to include their approach to identifying preferable ingredients for product formulation and to access available resources for information on human and environmental impacts of chemicals from the scientific literature, in-house evaluations, and where data are not available, from modeling results.

Identify chemicals with ‘green’ or preferred human health and environmental profiles.

5.3 BUILD A DATABASE OF PRODUCTS THAT MEET CRITERIA FOR GREEN OR SUSTAINABLE PRODUCTS

Provide a contact point to host the information.

Provide an approved list of products that meet the criteria. The Center for a New American Dream has a partial and growing list of such products that can be viewed at <http://www.newdream.org/procure/products/cleaners.html>. This resource should be expanded.

5.4 SUPPORT CHANGES IN MSDS FORMAT

Support full ingredient disclosure by manufacturers and formulators for informed decision-making. Use full ingredient disclosure as a criterion when developing purchasing specifications.

Support consistency in format. ANSI MSDS format is recommended as a good start.

Encourage the government to more carefully review MSDSs for accuracy and to enforce penalties for fraudulent MSDS data.

5.5 PROMOTE INNOVATION through education on sustainability. Purchasers and cleaning product formulators, distributors and manufacturers should engage in education on the principles of sustainability in order to accelerate understanding and innovation.

APPENDIX I TEXT OF THE UGCA CHARTER

There is a need in the Pacific Northwest for credible and reliable criteria to distinguish cleaning product formulations that perform and are preferable with respect to human and environmental health. We refer to those products as sustainable or “eco-effective”.¹ In addition, there is a need for affordable, effective and reliable marketing means to promote and encourage the use of these sustainable cleaning products.

The Unified Green Cleaning Alliance (UGCA) has been formed to support the development and dissemination of sustainable cleaning formulations into industry and the marketplace, to generate awareness and demand, and to make the criteria accessible to a broad audience.

The UGCA is founded on the belief that sustainability means maintaining or improving the health of the built, natural, social and economic environment, without interfering with the ability of future generations to do the same. A sustainable community will use its resources to meet current needs while ensuring that adequate resources are available for future generations. In order to ensure a sustainable community we must seek to improve public health and a better quality of life by preventing pollution, limiting waste, promoting efficiency and maximizing conservation.

Commercial cleaning products used by cleaning professionals provide four primary benefits. They improve the **health** of the building environment, maintain **safety** for workers and building occupants, **preserve capital** and assets for building owners and enhance the overall **aesthetics**. At the same time that we acknowledge these benefits, certain ingredients and formulations result in unintended negative consequences to human health and/or the environment due in part to the fact that cleaning is a ubiquitous activity. It involves close or direct exposure to cleaning products by cleaning workers and many cleaning products and the byproducts of the cleaning process are released to the waste stream, sewer or to the air either during or after use.

In order to retain the benefits of cleaning products while eliminating the negative side-effects, it is necessary to identify those products, components, formulations, and cleaning practices with the least negative impact to human and environmental health and to encourage innovation in developing new green chemistries where needed.

Proposed Activities

The Unified Green Cleaning Alliance has been established to:

- identify a set of criteria that can be used to distinguish environmentally preferable or eco-effective cleaning products;
- determine how these products will be verified, evaluated and identified with respect to the criteria, and
- determine how this program will be disseminated and maintained.

¹ As described by McDonough Braungart Design Chemistry, www.mbdc.com

Ingredients, packaging, life-cycle assessment and life-cycle cost are all important components of an effective commitment to eco-effective and sustainable cleaning products. Thus, cleaning products must be manufactured, transported, stored, used and disposed of in ways that will protect our environment and use resources to meet current needs while ensuring that adequate resources are available for future generations. The formation of the UGCA is designed to help meet this objective.

APPENDIX II
List of UGCA Participants
Including Members, Visitors and Speakers
As of March 1, 2003

Name	Organization	Stakeholder Group/Participants
Gerry Allgeier	Rochester Midland Corp.	Formulator-Manufacturer*
Roald Berg	Bi-O-Kleen	Formulator-Manufacturer**
James Berndt	Willamette University	User/Purchaser**
Paul Bogart	Healthy Building Network	Labor Advocate*
Dan Budiharjo	Pacific Real Estate Mgt Group	Property Manager**
Dale Burson	Dynamic Research	Formulator-Manufacturer**
Scott Case	Center for New American Dream	Environmental Advocate (*)
Scott Casey	Marfield-Scott Agency	User**
Larry Chalfan	Zero Waste Alliance	Sustainability Advocate**
David Chandler	3M Pharmaceuticals	Scientist and Expert (*)
Dan Clem	Oregon DAS Procurement	Purchaser**
Mary Cushmac	EPA DfE Formulator Initiative	Policy Maker*
Ed Diamond	The Cleaning Company	Building Service Contr. *
Philip Dickey	Washington Toxics Coalition	Environmental Advocate**, (*)
David Difore	EPA DfE Formulator Initiative	Policy Maker**, (*)
Douglas Fifield	Tennant Company	Formulator-Manufacturer*, (*)
Jim Flewellen	GSA	Government Purchasing**
Jay Flint	SBM Cleaning Company	Building Service Contr. **
Adam Foltz	ABM Janitorial	Building Service Contr. **
Paul L. Gallegos	GSA	Government Purchasing**
Bill Halabi	Oregon DAS	User**
Lauren Heine	Zero Waste Alliance	Sustainability Advocate**, (*)
Kim Hughes	Portland General Electric	User**
Robert Israel	Johnson Diversey	Formulator-Manufacturer (*), *
Alex Keith	Zero Waste Alliance	Sustainability Advocate*
Dave Kimball	Zero Waste Alliance	Sustainability Advocate**, (*)
Lonny Knabe	NIKE Corporation	User**
George Leago	Evergreen State College	User**
Jordan LeCorre	Griffin Bros.	Formulator-Manufacturer*
John Marmar	3M Company	New Business Development (*), *
John Martilla	Coastwide Laboratories	Formulator-Manufacturer**
Roger McFadden	Coastwide Laboratories	Formulator-Manufacturer**, (*)
Mike Midas	Coastwide Laboratories	Formulator-Manufacturer**
Lisa Miles	Ashforth Pacific Inc.	Facilities Management**
Thomas Miller	ZM Associates	Sustainability Consultant*
Gunnar Nielsen	State of Washington	User**
Gary Orr	Northwest Distributors	Distributor**
Jerry Parker	WA Dept of Ecology	Policy Maker*
Chris Peart	Tacoma Metro Parks	User**
Mark Petruzzi	Green Seal	Standards Organization (*)
Dugan Petty	Oregon DAS	User**
Jim Rimer	Bi-O-Kleen	Formulator-Manufacturer**, (*)
Kirsten Ritchie	Scientific Certification Systems	3 rd Party Certifier (*)
Barbara Roberson	GSA	Government Purchasing**

Peter Samson	Oregon Business Association	Policymaker**
Kendall Saville	Pacific West Site Services	Building Service Contr. *
Dick Schmidt	City of Portland	Sustainable Development**
Mike Shea	20/10 Products	Formulator-Manufacturer**
George Twiss	Northwest Center	Building Service Contr. *
Rick Volpel	OR DEQ	Policy Maker**
Grant Watkinson	Coastwide Laboratories	Formulator-Manufacturer**
Mike Wiese	BPA/TECOM	User**
Marsha Willard	Axis Performance Advisors	Facilitator**

Participation Level

* Visitor/Participant
 (*) Speakers
 ** Members

Appendix III

Minority Opinion on Full Ingredient Disclosure on the MSDS

First of all the MSDS is an OSHA requirement as part of the Workers-Right-To-Know regulations and should not become encumbered with transporting entire formulations and subsequent liturgy on said ingredients making the MSDS more than a 4-6 page document that is probably going to be received and filed with less attention than deserved. The agreement to incorporate the use of the ANSI standard 16 Section MSDS provides sufficient format to meet the spirit of compliance. OSHA requires that materials listed by the American Conference of Government Industrial Hygiene and any state-by-state regulated substances be listed in the Ingredient Section. In addition, there are provisions to list any ingredient that poses a risk.

Secondly, the development of detailed attributes from our meetings resulted in a comprehensive format that prescribes fairly distinctly the formulation guidelines, which if complied with, would create and deliver products that would assure the end user of compliance with most if not all the Government Regulations and issues.

Thirdly, full disclosure compromises entrepreneurship and allowable proprietary craftsmanship. There are some states like New Jersey, that allow for proprietary non-disclosure. This does not prevent the manufacture from responding per OSHA requirements, directly to an employer or employees physicians in emergency situations or to provide more detailed ingredient histories as needed. I have been involved in these situations before with little difficulty. Direct proprietary correspondence with end user regarding impact of ingredients on employees or environment should be sufficient in industrial situations.

I am concerned that we are creating of some kind of “Socialized Chemistry” here that is resulting in some frayed feelings and suspicions. I am in favor of compliance but not to exceed the regulations, which add economic burdens especially to the small business community.

We also support the separation of consumer products versus industrial products as far as regulatory issues are concerned such as full disclosure labeling. When you address the four criteria for a hazardous material, toxicity, reactivity, corrosivity and flammability per OSHA on both the label and MSDS in detail, you should be in compliance.

We should have considered a provision for existing products in the market place that have demonstrated compliance with the attributes, to be subject to some form of gradient or scaled certification such that economic burdens are optimized.

Appendix IV

List of Non-Product-Specific Programs Related to Green Cleaning Practices³

ASTM E1971-98 Standard Guide for Stewardship for the Cleaning of Commercial and Institutional Buildings “This guide covers a procedure to assist owners and operators of commercial and institutional buildings in the stewardship of cleaning and housekeeping operations. The focus of this guide is to address appropriate cleaning activities and processes, to maximize eco-efficiency and to minimize adverse impacts on the building occupants, cleaning personnel, the building structure itself, and the environment. Adherence to the principles set forth in this guide can lead to greater tenant/occupant satisfaction, reduced operational costs and greater productivity (of occupants and cleaning personnel).”

NSF 143 - Evaluation of Product Environmental Attributes - Chemical Cleansers (still in development by NSF International). “This Standard specifies requirements for a Product Development Process - Environmental Management System (PDP-EMS) for hard surface cleanser products. This Standard shall enable a manufacturer to formulate a PDP-EMS covering those environmental aspects that the manufacturer can control.”

Leadership in Energy and Environmental Design Green Building Rating System for Existing Buildings (LEED EB) from the U.S. Green Building Council, which includes a requirement for a green housekeeping program. “LEED for Existing Buildings (LEED EB) addresses: whole-building cleaning/maintenance issues including chemicals, ongoing IAQ, energy efficiency performance, water efficiency performance, recycling programs and supporting facilities, exterior maintenance programs, and systems upgrades to improve building energy, water, IAQ, and lighting performance to green performance standards.”

Private efforts like Rochester Midland Corporation’s Green Housekeeping Program. and Coastwide Laboratories “Ten Principles for Greening Your Professional Cleaning Operations”

The Commonwealth of Pennsylvania’s *Green Building Operations and Maintenance Manual*, which includes chapters on "Cleaning Procedures," "Cleaning Product Selection," and a "Green Cleaning Appendix." As Secretary of the Department of General Services Kelly Powell Logan states, “Pennsylvania is the first state in the nation to spearhead a project like this, to make government buildings healthier and more environmentally friendly for state employees and the public.”

³ Comments courtesy of Mark Petruzzi of Green Seal

Appendix V

Discussion of Certification Costs and Relative Burden to Small and Large Companies

From the UGCA Draft Final Report:

‘CERTIFICATION METHODS AND PROCESSES SHOULD BE RELIABLE, AFFORDABLE, EQUITABLE AND ACCESSIBLE. THERE SHOULD BE MULTIPLE AVENUES FOR DEMONSTRATING COMPLIANCE. USE OF A QUALIFIED THIRD-PARTY CERTIFIER IS PREFERRED

UGCA believes that any effective certification process for green and sustainable cleaning products should encourage innovation and incremental improvements

UGCA believes that current certification options should be expanded and that these options should be made widely known to all stakeholders. Certification requirements should be inclusive and must be affordable to both small and large companies.

UGCA believes the cost of certification is ultimately passed onto the consumer and should be affordable to large and small businesses. It should not unfairly burden small and innovative companies.

Certification costs currently exclude many small entrepreneurial businesses. This puts government purchasers into a difficult situation. They are guided to purchase environmentally preferable cleaning products and also encouraged to buy from small businesses when possible.’

Commenter 1 said: [THIS FALSE DICHOTOMY MUST BE CORRECTED!! – As I have stated repeatedly, government purchasers are not requiring certification. They are instead requiring that manufacturers/vendors demonstrate that their products meet the standard. They are not requiring certification. No small business is being excluded because they can’t afford certification. Certification is not required. There is no choice between small businesses and environmental products. Purchasers can have and are getting both. I don’t know how else to say this. I’ve said it numerous times. Please call me if it is still not clear.

If you insist on including that kind of misinformation, at least express it as a fear of UGCA that it might someday be true. Anyone with any knowledge of the subject would realize it is a silly fear based on extreme misinformation, but your statement would at least be accurate if you claim it is a fear of some UGCA members.]

Commenter 2 response: **Commenter 1 is correct. Government purchasers do not currently mandate Green Seal Certification of cleaning products. However, government purchasers are requiring that products comply with GS-37. There is very little difference when you consider the fact that there is no formal process for companies to gain GS-37 compliance without spending the money with Green Seal to have the products certified there. There is the “impression” created by those promoting Green Seal Certified products that if the**

product is certified by Green Seal that it is somehow better than products certified by other third-party certifiers. This misperception has been advanced by consultants paid to promote the purchase of green cleaning products throughout the country and is very misleading to purchasers and buyers. It is acceptable for a consultant to say, “The important thing for purchasers to do is select products that meet the basic attributes of GS-37 and there are several acceptable ways for purchasers to obtain the assurance it meets the attributes. Green Seal or other reputable third-party certifiers can provide you with that assurance.” But it should not be acceptable for a consultant paid by the government to say the following, “I recommend that you select products that are Green Seal Certified. But you should know that currently government purchasers are not requiring Green Seal Certification.” This confuses purchasers and creates the impression that they need to specify Green Seal because the consultant is recommending it. This indirectly forces small companies to invest in Green Seal even though they can demonstrate compliance with GS-37 in other reputable ways. This is what I believe the UGCA meant in the statement referenced by Commenter 1.

This could all be fixed if Green Seal changed its method and adopts the approach of other voluntary consensus based standard building organizations like ASTM. Choices are good for business and for purchasers.

In many cases, companies that make environmentally preferable cleaning products have already spent large amounts of money testing and verifying their claims. The information has already been collected and the companies are satisfied that their products scientifically meet the claims of GS-37. Yet, to receive a Green Seal Certification the company needs to once again pay for verification of information that they have already paid for in their third-party certification process. The information is not necessarily in the same format as GS-37, but it nevertheless exists and is available. By implying that a company has an advantage if they have a Green Seal Certification is something that can be promoted by the marketing department in a company, but should be eliminated from a purchasing or educational process. This is my impression of what the UGCA meant by this statement.

Below is a summary of the costs for Green Seal Certification for small companies compared to large companies. You will see a significant impact and inequity between small companies compared to large companies.

The certification process is somewhat inequitable in the sense that a national or international firm with annual sales of 4 billion dollars pays nearly the same for Green Seal certification as does a local or regional firm with annual sales of 4 million dollars? For discussion purposes lets say the national company sells into 50 states and the local firm sells into 2 states. And let’s say for discussion purposes each state generates an average of 10,000 gallons of Green Seal certified product annually. This means the national company will generate 500,000 gallons of sales annually (50 states at 10K each) and the local or regional company will generate 20,000 gallons of sales annually (2 states at 10K each). Based on an initial Green Seal certification fee of \$7500/product for large companies and \$5000/product for small companies; And an annual renewal certification fee of \$5000/product for large

companies and \$2500/product for small companies. (By the way, Green Seal has a 5% automatic cost escalation clause in its contracts)

Calculations indicate that the increase in production costs per gallon for the Green Seal Certification for national firms will be substantially lower per gallon than local or regional firms:

	<u>Initial 1st Year</u>	<u>Annually</u>
National company Increase:	\$0.015/gallon	\$0.010/gallon
Local company Increase:	\$0.250/gallon	\$0.125/gallon

An alternative that seems to work for EPA and the registration of pesticides and disinfectants is to access a fee by individual states and by product. For instance, the state of Oregon charges \$145/product annually for disinfectants sold in their state. Each state has a product like this. Companies only pay the fee for products if they are sold in their state. This levels the playing field. A large company pays a fee in all 50 states because they sell product and make revenue from sales in every state. A small, local or regional company pays only the states where they do business. Put into perspective:

National Company Fee for 50 states at \$145/product	\$7250/product/year
Local Company Fee for 2 states at \$145/product	\$290/product/year

The prior information is only provided to clarify Commenter 1's concerns and is not necessarily intended for inclusion into the UGCA Report.

Appendix VI

Comments to Clarify Potential for Use of the U.S. EPA's Design for the Environment Logo

The DfE program only allows use of its logo under prescribed circumstances, set out in a signed memorandum of understanding (See MOU boilerplate language below). Before a company can enter a partnership/MOU, they must first submit for DfE review a complete list of product ingredients with specific chemical identifiers, MSDSs, technical data sheets, etc. DfE then develops a profile on each ingredient based on available physical-chemical property and hazard information, using Agency predictive models and tools in the absence of data. We use this profile to compare the chemical to other chemicals in the same use class, e.g., surfactants, solvents, etc. When our technical work group agrees that each ingredient has a more positive health and environmental profile than the conventional, we are prepared to offer partnership.

We would never allow use of the logo simply based on “working with” us, sharing data, or even after reviewing product ingredients, short of a signed partnership agreement.

Hope that clears things up. DfE appreciates your detailed and thoughtful comments on the UGCA final report.

EPA Recognition and Support

[Partner company] may use the Design for the Environment logo, DfE Formulator Initiative logo (but not the official U.S. EPA logo), or any statement of recognition or support on [partner product] containers or [partner product]- related information or advertising, provided that EPA has had an opportunity to review and comment on the intended use. [Partner company] may only use a DfE logo or EPA recognition for a DfE-recognized product and not on any general [partner] materials, non-DfE recognized products or literature, or non-[partner product] advertising.

EPA/DfE recognition does not constitute endorsement of [partner product]; the recognition signifies that the [partner product] formula, as [partner company] has represented it to the Agency, contains ingredients with more positive health and environmental characteristics than conventional industrial cleaning products...

[Partner company] must discontinue use of any Agency logo or other form of recognition, within 30 days, under the following circumstances: If [partner company] stops formulating [partner product] using ingredients with a more positive environmental/health profile; upon the termination of this MOU; or, if notified by EPA...