



Environmentally Preferable Purchasing Program



Cleaning Products Pilot Project





Environmentally Preferable Purchasing Program

Environmentally Preferable Purchasing (EPP) ensures that environmental considerations are included in purchasing decisions, along with traditional factors, such as product price and performance. The EPP program provides guidance for federal agencies to facilitate purchases of goods and services that pose fewer burdens on the environment.

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Foreword

The Federal government purchases more than \$200 billion worth of goods and services each year. Recognizing that purchasing decisions have large environmental consequences, the Federal government is beginning to incorporate environmental considerations into its purchasing practices. As directed in Executive Order 12873 on *Federal Acquisition, Recycling, and Waste Prevention*, the U.S. Environmental Protection Agency (EPA) issued its proposed *Guidance on Acquisition of Environmentally Preferable Products and Services* to help federal agencies include these considerations when making purchasing decisions. The proposed *Guidance* establishes guiding principles to help identify products and services that have a lesser or reduced effect on human health and the environment.

EPA's proposed *Guidance* acknowledges that environmentally preferable purchasing (EPP) is a dynamic concept that, depending on the product category, will not necessarily be implemented in the same manner from agency to agency, or even within a specific agency. In order to demonstrate some of the ways EPP principles are being applied, EPA is documenting various pilot procurement projects undertaken by Executive agencies, state and local governments, and the private sector.

The Cleaning Products Pilot Project case study documents the first of these projects. It is a three-year collaborative effort between the U.S. General Services Administration (GSA) and EPA to develop a framework for identifying and comparing environmentally preferable commercial cleaning products. This case study provides an in-depth look at the choices and decisions made by the GSA/EPA team in implementing this project. It contains useful information about the project and lessons learned while implementing an EPP framework. More importantly, it demonstrates the feasibility of including a product's environmental performance into purchasing decisions and examines the benefits for both Federal customers and private sector manufacturers. We hope that the lessons and insights documented in this case study will help you and your organization as you begin incorporating environmental preferability into your purchasing decisions.

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Cleaning Products Pilot Project Case Study

INTRODUCTION

The Cleaning Products Pilot Project is a cooperative interagency effort between the U.S. General Services Administration (GSA) and the U.S. Environmental Protection Agency (EPA) to establish a framework for identifying and comparing environmentally preferable commercial cleaning products. GSA and EPA began the project in February 1993, to identify cleaning products with reduced human health and safety impacts for use in federal buildings. The project originally focused on identifying the relevant environmental attributes and comparative effectiveness of various cleaning products. In the early stages of the project's development, President Clinton issued Executive Order 12873 on *Federal Acquisition, Recycling, and Waste Prevention* and the project became the first environmentally preferable product pilot project under the Executive Order. GSA and EPA are currently measuring the success of the program and are seeking ways it can be improved.

Although not a project objective, as the first pilot project designed and conducted to identify and compare environmentally preferable products, the Cleaning Products Pilot Project is likely to influence the direction of similar pilot projects. Some of the lessons learned from this pilot may be specific to cleaning products, while others may be relevant for other product categories. Each environmentally preferable pilot project will be unique due to the differences among the product categories examined and the stakeholders involved in the procurement process.

The project is the first EPP pilot under Executive Order 12873.

Environmentally preferable products are “*products and services [that] have a lesser or reduced effect on human health and the environment when compared to other products and services that serve the same purpose.*”

—Executive Order 12873 on *Federal Acquisition, Recycling, and Waste Prevention*

October 20, 1993

History of the Cleaning Products Pilot Project

Origin

The project began with a GSA request for environmentally preferable cleaning products.

GSA's Public Buildings Service (PBS) began the Cleaning Products Pilot Project in February 1993.¹ At that time, the goal was to identify specific cleaning products with reduced human health and safety concerns for use in cleaning the over 7,700 federal buildings that PBS oversees. Officials at PBS wanted to develop a list of environmentally preferable cleaning products in five product categories: (1) daily-use products, (2) floor care systems, (3) carpet cleaners, (4) sweeping compounds, and (5) de-icing compounds. Unfortunately, most of the publicly available environmental information on such products consisted of unsubstantiated vendor claims or "home remedies," such as cleaning solutions made with lemon juice or vinegar.

PBS officials contacted other GSA officials to help define "green" cleaning products and a team was organized to address the problem. The team met with members of the Federal Trade Commission (FTC) to explore the possibility of using FTC's *Guide for Use of Environmental Marketing Claims* (57 FR 36363, August 13, 1992) to guide purchasers towards specific cleaning products. After determining that the FTC guidelines were not intended to be used for this purpose and that identifying environmentally preferable products was outside the scope of FTC's mission, the GSA team contacted EPA's Office of Pollution Prevention and Toxics (OPPT) for assistance.

OPPT staff explained that as a government agency, EPA is prohibited from endorsing or recommending specific commercial products or brand names, even as a courtesy to another government agency. As a result, OPPT declined to recommend specific products, but agreed to join GSA team members in developing characteristics that could be used to identify environmentally preferable cleaning products. The preliminary characteristics identified by the GSA/EPA team were: packaging and source reduction; impact to human health, air, and water; and disposal. In addition, the team agreed that EPA should, if feasible, examine the life-cycle impacts of cleaning products through a life-cycle assessment.²

A complete life-cycle assessment was impractical.

While examining the preliminary characteristics, the GSA/EPA team realized that a complete product life-cycle assessment would be difficult. Such an analysis involves examining the environmental effects across five different product stages: (1) premanufacturing, (2) manufacturing, (3) distribution and packaging, (4) use, and (5) waste disposal. The time required for a complete, or even abbreviated, life-cycle assessment exceeded GSA's need to implement the program quickly and better serve its customers. As a result, the GSA/EPA team decided to focus primarily on one stage in the life-cycle—product use. Product use was selected because the greatest direct health risk from cleaning products to janitorial workers and building occupants occurs during use.

¹ While the Cleaning Products Pilot Project did not begin until 1993, it builds upon work completed by GSA's Biodegradable Cleaners/Degreasers Project, which began in 1988.

² A life-cycle assessment (LCA) is a process for evaluating the environmental burdens associated with a product, process, or activity. LCAs identify and quantify energy and material uses and releases to the environment. The assessment covers the entire life-cycle of the product, process, or activity, including extracting and processing the raw materials; manufacturing, transporting, and distributing the product; product use, reuse, and maintenance; recycling; and final disposition.

Reinventing the Way Government Does Business

Under the Reinventing Government initiative launched by President Clinton and Vice President Gore, GSA was tasked with improving government procurement methods. Under this initiative, GSA's Commercial Products Acquisition Lab (CPAL) is developing procedures to allow GSA customers to purchase commercially available items in addition to products based on government specifications. Cleaning products are among the first commercially available items under this reinvention program.

Additional GSA reinvention efforts include improving the *GSA Advantage!* system, an electronic shopping service available to Federal purchasers over the Internet, and facilitating government use of commercial credit cards, which are intended to streamline procurement and payment procedures.

In addition to product use, the GSA/EPA team also agreed to examine product packaging because the packaging used to deliver cleaning products affects its use and resulting exposure. Some cleaning products, for example, are purchased as concentrates to minimize storage requirements. Concentrated cleaning solutions can increase worker exposure and the associated human health risks. There are packaging and delivery systems available, however, that minimize storage requirements, reduce worker exposure, and reduce environmental impact during product distribution and disposal.

The GSA/EPA team brought the preliminary environmental product characteristics to the attention of the Federal Supply Service (FSS), GSA's procurement and supply division, to determine if they could be incorporated into their Supply Catalog. Coincidentally, as part of President Clinton's Reinventing Government initiative, FSS's Paint and Chemical Commodity Center was already working on a similar project, which was based on GSA's Biodegradable Cleaners/Degreasers Project that began in 1988. The Federal Supply Schedule Contract for Biodegradable Cleaners/Degreasers (solicitation number FTC-92-MT-7906B) was already underway to identify commercially available biodegradable cleaners and degreasers. GSA's reinvention initiatives provided the flexibility necessary for FSS members to join the project team and help evaluate the preliminary environmentally preferable product characteristics.

Over a five month period, from November 1993 to March 1994, the GSA/EPA team met with numerous commercial cleaning stakeholders, including manufacturers, vendors, public interest groups, commercial janitorial companies, industry trade associations, and unions to help identify cleaning product attributes that result in fewer burdens on human health and the environment. The stakeholders included: 3M, Abel Industries, Inc., AFL-CIO, Amway Corporation, Buckeye International, Chemical Manufacturers Association, Chemical Specialties Manufacturers Association, Cotto-Waxo Co., Earth Friendly Products, Ecolab, Environmental Choice Program (Canada), Fragrance Materials Association, Gotham Building Maintenance, Green Seal, Hillgard Industries, International Sanitary Supply Association, L&F Products, National Aerosol Association, Ossian, Inc., Procter and Gamble, Rochester Midland, SC Johnson & Son, Service Employees International Union, Soap and Detergent Association, Sunshine Makers (Simple Green), Vista Chemical Company, and the Washington Toxics Coalition.

**Over 25
stakeholders
were involved.**

Results of the Philadelphia Pilot Project

Nineteen cleaning products were evaluated in a field test.

In May 1993, while team meetings continued, GSA and EPA began a small scale pilot project at the James A. Byrne Federal Courthouse in Philadelphia to examine the performance, human health, and environmental safety effects of a variety of cleaning products. Nineteen cleaning products (including all purpose cleaners, glass and toilet bowl cleaners, disinfectants, and degreasers) were divided into four test groups. The first three groups included alternative cleaning products that were believed to be less harmful to human health or the environment based on product literature and information obtained from Material Safety Data Sheets (MSDSs). The fourth group was used as a baseline and included a subsample of the cleaning products previously used by the courthouse custodial staff.

Each group of products was used for a one month cycle. At the end of each cycle, the 45 member custodial staff was surveyed to measure the cleaning effectiveness of each product on each of the surfaces typically found in government buildings. The staff was asked to rate each of the products on a scale from one (poor performance) to five (superior performance). The staff was also surveyed to determine if the products could be linked to any adverse health factors including headaches, dizziness, upset stomach, coughing, or throat, eye, or skin irritation.

The results of the survey suggested that the alternative cleaning products in cycle three were more effective than the other alternative cleaning products and were nearly as effective, in terms of cleaning effectiveness, as the baseline products. The baseline cleaning products had an average efficacy rating of 3.75 (on the five point scale described above), while the alternative cleaners in cycle three had an efficacy rating of 3.59. Although the baseline cleaning products were slightly more effective, according to the survey respondents, the health problems associated with them were significantly higher. Sixteen percent of the staff reported health problems with the baseline products, while only nine percent reported health problems with the alternative cleaning products in cycle three.

Executive Order 12873

Executive Order 12873 was issued eight months into the project.

In October 1993, while the Philadelphia pilot was being conducted, President Clinton issued Executive Order 12873 on *Federal Acquisition, Recycling, and Waste Prevention*. Although the Executive Order supported the type of project that the GSA/EPA team was developing, the Executive Order also temporarily disrupted the project's momentum. Several sections of the Executive Order increased EPA's responsibilities for shaping federal agency procurement programs for environmentally preferable products. Specifically, section 503 mandated that EPA "issue guidance that recommends principles that Executive agencies should use in making determinations for the preference and purchase of environmentally preferable products."

Pursuant to the Executive Order mandate, an EPA team, which included some members of the GSA/EPA cleaning products project, was assigned to draft environmentally preferable guidance for use by Executive agencies. Some of the initial guidance proposals, however, conflicted with proposals being considered by the cleaning products project team. As a result, progress stalled on the GSA/EPA cleaning products project while EPA was developing the section 503 guidance.

EPA's Environmentally Preferable Guidance

EPA established seven guiding principles to help federal agencies incorporate environmental preferability into their procurement practices. These principles were proposed in EPA's *Guidance on Acquisition of Environmentally Preferable Products and Services* (60 FR 50722):

- 1) Consideration of environmental preferability should begin early in the acquisition process and be rooted in the **ethic of pollution prevention**, which strives to eliminate or reduce, up front, potential risks to human health and the environment.
- 2) A product or service's environmental preferability is a function of **multiple attributes**.
- 3) Environmental preferability should reflect **life-cycle considerations** of products and services to the extent feasible.
- 4) Environmental preferability should consider the **scale (global versus local)** and **temporal reversibility** aspects of the impact.
- 5) Environmental preferability should be tailored to **local conditions** where appropriate.
- 6) Environmental objectives of products or services should be a factor or subfactor in **competition** among vendors, when appropriate.
- 7) Agencies need to **examine product attribute claims carefully**.

Meanwhile, the GSA and EPA Administrators signed a memorandum of understanding (MOU), which had been under development before the Executive Order was signed, formalizing their cooperation on the cleaning project. After resolving inconsistencies between the EPA environmentally preferable guidance and the GSA/EPA cleaning products project, the GSA/EPA cleaning products project became the first environmentally preferable product pilot project under the Executive Order.

While the GSA/EPA project was integrating the principles of the EPA environmentally preferable products guidance, some of the vendors that had voluntarily cooperated with the cleaning project became alarmed by some of the language in EPA's proposed guidance. They feared that EPA, as a result of the Executive Order, would initiate additional regulations for the cleaning industry. This misunderstanding temporarily reduced the willingness of some vendors and trade associations to cooperate.

GSA and EPA signed an MOU formalizing their cooperation.

EPA examined numerous environmental attributes.

Selecting and Evaluating the Environmental Attributes

Following the completion of the Philadelphia pilot project, EPA initiated a comparative risk management assessment of the 19 cleaning products, known as an RM1 assessment.³ EPA and GSA encouraged manufacturers to voluntarily provide product formulation data, but this approach was not uniformly successful. As a result, the RM1 relied primarily on publicly available information derived from MSDSs and product literature.

The primary goal of the RM1 was to develop specific environmental attributes that could be used to help assess the environmental preferability of commercially available cleaning products. These attributes included:

- **Irritation potential**—The potential for adverse skin reactions from dermal exposure to the product.
- **Chronic health risks**—The likely chronic health risks from dermal and inhalation exposure to the product.
- **Time to ultimate biodegradation**—Toxic chemicals usually degrade to less toxic forms. The faster a chemical degrades, the lower the exposure potential.
- **Bioconcentration factor (BCF)**—The higher the BCF value, the more likely the ingredient is to accumulate in the food chain.
- **Percentage of volatile organic compounds (VOCs)**—VOCs are known to contribute to smog formation.
- **Amount of product packaging**—Products with reduced packaging (sold as concentrates) decrease the volume of waste that must be disposed of.
- **Presence of ozone depleters**—Ozone depleting components should be minimized.
- **Potential exposure to the concentrated cleaning solution**—The product dispensing method should include safety precautions designed to minimize exposure to the concentrated solution.
- **Flammability**—Non-flammable products are preferable.
- **Presence of cosmetic additives (fragrances and dyes)**—Cosmetic additives can be considered unnecessary additives that increase overall life-cycle impacts and that could increase health and safety and ecological concerns. However, cosmetic additives may be required to help custodians distinguish among cleaning products and determine proper dilution strengths.
- **Energy needs**—Products that work effectively in cold water reduce energy consumption.

³ An RM1 is a preliminary risk management assessment to determine if the human health or environmental risks associated with product components warrant further investigation. The RM1 conducted as part of the Cleaning Products Pilot Project was different from traditional RM1 assessments because attributes other than those directly associated with risk, like product packaging, were also evaluated.

EPA encountered several limitations while conducting their comparative assessment of the 19 cleaning products. The limitations included: difficulties in obtaining complete product formulation information; incomplete hazard and pharmacokinetics information for most product components; and incomplete data on actual releases and exposures. As a result, EPA was unable to completely assess the chronic health risks associated with the cleaning products, although it is hoped that these risks can be quantified in future phases of the Cleaning Products Pilot Project.

EPA also chose not to include the presence of ozone depleters or energy needs in its assessment because none of the 19 cleaning products included ozone-depleting compounds or specified hot water use. Following the RM1 assessment, EPA determined that flammability did not differ significantly among the cleaning products and, therefore, recommended that flammability be excluded as an environmental attribute under the Cleaning Products Pilot Project.

Based on the results of the RM1 assessment and other considerations, such as the ability of small vendors to supply the necessary information, EPA narrowed the list of environmental attributes that could be used to identify environmentally preferable cleaning products. In addition to the existing acute toxicity and biodegradability criteria detailed in the Federal Supply Schedule Contract for Biodegradable Cleaners/Degreasers, EPA suggested other attributes including: skin irritation factors, BCF value, VOC concentration, product packaging, use of cosmetic additives, and the likelihood of concentrate exposure.

EPA did not recommend providing government purchasers with the impact of every conceivable environmental attribute for two reasons. First, most of the environmental attributes associated with cleaning products did not differ significantly from one product to another. If new cleaning products are introduced that differ from other cleaners in an important environmental attribute, EPA might recommend including the attribute in a future phase of the Cleaning Products Pilot Project. Second, because the information being examined was to be used by federal purchasers, EPA wanted to avoid over-burdening them with information that would not facilitate their evaluation of the environmental preferability of a given product. The GSA/EPA team determined, based on EPA's recommendations, that information that fails to distinguish one product from another is not useful for comparing environmental preferability.

The Great Compromise

Following the results of the Philadelphia pilot project and the RM1 assessment, the GSA/EPA team debated the merits of several different approaches for identifying environmentally preferable cleaning products. While the PBS officials who initiated what became the Cleaning Products Pilot Project were originally hoping to use an EPA-approved list of cleaning products, it was clear from the beginning that such a list was outside the authority of GSA and EPA. Furthermore, the GSA/EPA team concluded that an "approved product list" was not necessarily the most beneficial solution because it would not allow government buyers to incorporate the varying needs of building tenants and cleaning staff or local environmental needs. Environmental needs, for example, could differ from one community to another. For example, some communities that do not have adequate water treatment facilities might be more concerned with water than air emissions.

EPA narrowed the list of attributes.

The GSA/EPA team debated several ways to distribute the information.

The team debated between a “green dot” and an attribute matrix.

The GSA/EPA team considered two primary methods of identifying environmentally preferable cleaning products. The first involved establishing thresholds for each of the environmental attributes identified during the Philadelphia pilot project and the RM1 assessment. Products that met these thresholds would be placed in a list of “green” cleaning products or be identified by a “green dot”. The second method would provide procuring agents with selected environmental attribute information in a matrix and allow them to decide which products met their environmental needs.

Proponents of the first method lobbied for the adoption of a “green dot” that could be placed next to cleaning products in the GSA product catalog that meet predetermined environmental standards. For example, only products with BCFs and VOC concentrations below an established threshold would be eligible to receive the “green dot”. They argued that the alternative, providing a matrix of environmental attributes, was too burdensome and complicated for purchasers, and was, therefore, unlikely to be used effectively.

The GSA/EPA team identified two primary advantages with the “green dot” approach. First, it eliminates the need for purchasers to sort through detailed environmental information. Second, manufacturers would know exactly what characteristics their products must include (or exclude) and could design and manufacture products to meet those requirements.

Opponents of the “green dot” approach felt that its greatest strengths were also its greatest weaknesses. First, they argued that although issuing environmentally preferable products a “green dot” makes it easier for buyers, it also obscures vital environmental information including which environmental attribute(s) warranted the “green dot”. GSA has millions of customers ranging from individuals in remote forest service outposts to entire military bases. Each group of customers has unique environmental and performance needs. For example, if a customer normally discharges waste cleaning water directly to surface water, a biodegradable cleaning product might be the most important environmental consideration. If, however, a customer discharges waste water to a water treatment facility, biodegradability may be less of a concern than reduced product packaging.

Some members of the GSA/EPA team also suggested that the “green dot” approach would absolve purchasers from fully examining the environmental impact of their procurement decisions. The matrix advocates argued for an approach that provides purchasers with sufficient information to balance the independent and combined impacts of each environmental attribute along with cost and product performance.

The matrix advocates also felt that if minimum environmental performance criteria were established, manufacturers would have no incentive to exceed the minimum criteria. Providing Federal purchasers with environmental attribute information for each cleaning product, however, allows them to select those products with the environmental attributes they determine are most important. In order to remain competitive, manufacturers will supply products with the environmental attributes favored by the Federal purchasers. As a result, market forces will encourage manufacturers to continually improve the environmental performance of their products.

The GSA/EPA team determined that the existing schedule for biodegradable cleaners provided an opportunity to combine the “green dot” and environmental attribute matrix. The method that was ultimately adopted and published in the GSA *Commercial Cleaning Supplies* catalog reflects a two step process that incorporates both approaches. GSA continues to identify products that meet the acute toxicity and biodegradability standards defined in GSA’s Biodegradable Cleaners/Degreasers solicitation (FTC-92-MT-7906B), as it had done in previous catalogs. These products, however, are now grouped together in the front section of the catalog and are prominently displayed in a way that reflects the advantages of the “green dot” approach.

The final approach combines both methods.

Suppliers of biodegradable products listed in the GSA catalog are then asked to voluntarily contribute additional information on seven environmental attributes—skin irritation, food chain exposure, air pollution potential, fragrances, dyes, packaging, and potential concentrate exposure. These attributes are listed in a matrix, which allows purchasers to compare products based on the environmental attributes most critical for their geographic region and intended use.

The GSA *Commercial Cleaning Supplies* Catalog

GSA’s *Commercial Cleaning Supplies* catalog contains hundreds of commercially available cleaning supplies, ranging from soaps and disinfectants to mops and buckets. The February 1996 edition of the catalog introduced a 13-page section devoted to biodegradable cleaners and degreasers, including 48 cleaning and degreasing products from 30 suppliers. In addition, 28 of the 48 products are listed in a matrix that provides additional information on the seven environmental attributes for each product, voluntarily provided by the manufacturers and suppliers. The catalog explains the environmental and human health and safety significance of each attribute and GSA customers are encouraged to consult the matrix to balance environmental, health and safety, performance, and cost tradeoffs when selecting a cleaning product. The original matrix is reprinted on pages 10 and 11.

The matrix was introduced in the February 1996 GSA catalog.

Following publication of the original environmental attribute matrix, more than 60 manufacturers and suppliers contacted GSA to ask about being included in future matrix updates. Manufacturers provided environmental attribute information for three additional products, which were added to the matrix and published in the March 1997 catalog. GSA also expanded the matrix to include all of the products listed in the biodegradable cleaners and degreasers section of the catalog. In addition, the updated matrix also includes the National Stock Numbers for each product, which makes ordering easier for government buyers. (Call 800 241-7246 to request the most recent catalog.)

BIODEGRADABLE CLEANERS AND DEGREASERS

Product Attribute Matrix

Product	Skin Irritation	Food Chain Exposure (Bio concentration factor)	Air Pollution Potential (% VOC)	Contains Fragrance	Contains Dye	Reduced/ Recyclable Packaging	Product Minimizes Exposure to Concentrate?
Alfa Kleen AK-020	Not Reported	Not Reported	N/A	No	No	Yes/Yes	-
Allied Clean Free	ST	Not Reported	N/A	Yes	Yes	Yes/Yes	-
ASP Alpine Cleaner	Not Reported	Not Reported	N/A	No	No	Yes/Yes	-
Caljen Fast Clean	ST	12000	3.5	No	No	Yes/Yes	-
Charlie	M	Exempt	Not Reported	No	No	No/NA	NA
Chemco Enviro-Chem 095A	M	Not Reported	8	No	Yes	Yes/Yes	-
Chemco Kleenzol 148	SL	Not Reported	10	No	Yes	Yes/Yes	-
Cooke Tuff Job	M	12000	4.2	No	Yes	Yes/Yes	-
Cooke Easy Job	SL	Exempt	0.5	No	No	Yes/Yes	-
Earth Clean Systems Degrease	N-SL	Exempt	NA	No	No	Yes/NA	-
Electro ECD-101	SL	Exempt	NA	No	No	No/Yes	NA
ERL E-Z Does It	M	Not Reported	NA	Yes	Yes	No/NA	NA
ERL Grease Cutter	M	Not Reported	34.7	No	No	No/NA	NA
Gaylord Formula G-510	Exempt	8165	NA	No	No	Yes/Yes	-
L&B (Arrowak) Klean E-Z	Not Reported	Exempt	12.7	Yes	Yes	Yes/Yes	-
L&B (Arrowak) Klean E-Z Concentrate	Not Reported	Exempt	12.7	Yes	Yes	Yes/Yes	-
PCI Hurrisafe 9010	N-SL	Exempt	2	No	No	No/NA	NA
PCI Hurrisafe 9030	SL	Exempt	8	No	No	Yes/NA	-
PCI Hurrisafe 9040	SL	Exempt	15	No	No	Yes/NA	-
Rochester Biogenic 377C	SL	Exempt	1	No	No	Yes/NA	+
Sunshine Simple Green	N-SL	Exempt	0.8	Yes	Yes	Yes/Yes	0, Larger units, (-) smaller units
SOQ Ecomate	SL	Exempt	NA	No	No	Yes/Yes	-
Webaco Scuzz-RTU	ST	Exempt	3.3	No	No	No/NA	NA
Webaco Scuzz	ST	Exempt	3.3	No	No	Yes/NA	-
West Penetone Citrikleen Aerosol	M	Exempt	31	No	No	No/NA	NA
West Penetone Citrikleen	M	Exempt	6	No	No	Yes/NA	-
West Penetone Citrikleen HD	M	Exempt	10.5	No	No	Yes/NA	-
West Penetone Penair HD-1	M	Exempt	10	No	No	No/NA	NA

Ratings by Various Attributes

1. Skin Irritation



Some ready-to-use cleaning products may contain chemicals that will cause redness or swelling of skin. If possible skin irritation is a concern, products rated as negligible (none to slight) would be most preferable for this attribute. From most preferable to least preferable, select negligible (N), slight (SL), moderate (M), or strong (ST), in that order. An “Exempt” means that all chemical components in the ready-to-use product are less than 5% by weight.

2. Food Chain Exposure



Some ready-to-use cleaning products may contain ingredients that will be taken up by smaller aquatic plants and animals and increase in concentration through the food chain as these plants and animals are consumed by larger animals. If you intend to use these products in areas where wastewater is adequately treated, this attribute may be less important as an environmental impact. If you intend to use these products in areas where wastewater treatment is less efficient, this attribute may be more important to you. We measure this attribute by recording its bioconcentration factor (BCF). Products with a BCF less than 1000 and products for which this attribute is “exempt” are more preferable for this attribute.

3. Air Pollution Potential



Products may contain volatile organic compounds (VOCs). When these products are used, the VOCs may escape to the atmosphere and react to form smog. Smog and other atmospheric pollutants have been shown to cause irritation of the eyes, nose, throat and lungs and to cause asthma attacks. Many state and local authorities have restrictions on the use of VOCs. The numbers reported refer to the percent by weight of VOCs in the ready-to-use product. “NA” (not applicable) indicates that there are no VOCs of concern present. The lower the number, the more preferable the product. An “NA” would be most preferable for this attribute.

4. Fragrances



This attribute does not refer to natural odors which are associated with cleaning agents (e.g., a lemon odor in a citrus-based cleaner). It refers instead to fragrances that are added to the formulation to improve its odor or to mask an offensive odor.

While fragrances added to a formulation have little cleaning value, they may provide aesthetic benefits important to many users. On the other hand, some people prefer products without added fragrances. A basic principle of pollution prevention is to avoid additives that are unnecessary. A “Yes” indicates that fragrances have been added; a “No” indicates that they have not been added.

5. Dyes



This attribute refers to dyes that have been added to a formulation to enhance or change the color of the product. While the addition of these dyes contributes little to the cleaning value of the product, it may be important for safety reasons. These additives may help end users differentiate between products by color or to prevent misidentification as

other liquids, such as water. Again, a basic principle of pollution prevention is to avoid unnecessary additives. If dyes are present not as a safety feature but for aesthetic reasons, they may not be providing a necessary function. End users must decide what is necessary in their specific situations. A “Yes” indicates that dyes have been added to the product; a “No” indicates that they have not been added.

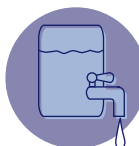
6. Packaging-Reduced/Recyclable



A product’s packaging can account for a significant portion of the product’s contribution to municipal solid waste. Packaging is a large component of municipal solid waste landfills. The EPA’s recommended approach to managing solid waste is, first, reduce packaging of products and, second, recycle packaging materials. The EPA has issued guidelines for this attribute for vendors to follow. This is a two-part answer. For the first part, a “Yes” signifies that the product is packaged as a concentrate; a “No” signifies that it is not. The second part is applicable only if paper packaging is used. Paper packaging should be consistent with applicable recovered materials recommendations set forth in 60 FR 21386, 5/1/95 or draft recovered materials recommendations found in 60 FR 14190, 3/15/95. A “Yes” signifies that the vendor has met EPA guidelines for this attribute. These products would be more preferable for this attribute. An “NA” indicates that no paper packaging was used.

Because the product may be shipped as a concentrate, please also consider the next attribute.

7. Product Includes Features to Minimize Exposure to Concentrate



Although packaging a product in concentrated form may result in reduced packaging, it raises the potential that the end users of the product will be exposed to the concentrate. Exposure to the concentrate may place the end user at greater health risk than exposure to the ready-to-use product.

A “+” in this column indicates that the concentrate is part of a system by which chemicals are transferred only among closed containers. This offers less exposure potential. A “0” in the column indicates that the concentrate is premeasured and prepackaged but not designed to be transferred among closed containers. A “-” in the column indicates that the concentrate is shipped without specific exposure controls. This offers greater exposure potential. “NA” means that the product is not a concentrate.

Because the information on these attributes is intended only for purposes of relative comparison, it does not substitute for other guidance on safe product usage. The information on environmental attributes should help you decide which products to buy; it does not provide guidance on HOW to use the products. You should continue to carefully follow guidance on Material Safety Data Sheets, labels and other product-specific information to ensure safe usage.

Current Status of the Cleaning Products Pilot Project

Over 30,000 copies of GSA's *Commercial Cleaning Supplies* catalog have been distributed. Based on limited anecdotal evidence, the reaction from customers and vendors has been very positive. GSA and EPA are currently conducting a study to further evaluate their responses. The purpose of the study is to determine if the matrix is useful to federal consumers when they make purchasing decisions. The study will also determine if the current list of attributes meets government buyers' needs.

GSA and EPA are beginning extensive outreach efforts to explain how the use of the environmental attribute matrix can help federal agencies select appropriate environmentally preferable cleaning products. At a recent meeting of PBS purchasing staff, attendees expressed their appreciation for the information provided in the matrix. They believe that the matrix will allow them to respond to the health and safety and environmental concerns of their custodial staffs without reducing effectiveness or increasing cost.

Sales of environmentally preferable cleaners have increased.

The GSA/EPA team is also attempting to quantify the effect their efforts have had on the sale of environmentally preferable, biodegradable cleaning products. The sale of such products has steadily increased since the project began. The federal government has contributed to this increase by procuring over \$12.2 million worth of biodegradable cleaning products since 1993. It is unknown at this point how much of the recent procurement increases can be attributed to the successes of the Cleaning Products Pilot Project or to general increased sensitivities about the environmental impacts of procurement practices. The GSA/EPA team believes, however, that these positive trends will continue due, in part, to the success of the project.

In addition to quantifying increased sales, the GSA/EPA team is attempting to quantify the environmental benefits associated with the increased use of environmentally preferable cleaning products. Several methods of quantifying this data are being considered, including working with the Service Industry Employees Union (SIEU) or the American Association of Poison Control Centers to obtain information on custodial health complaints.

EPA is helping FTC promote the existence and use of FTC's *Guides for the Use of Environmental Marketing Claims*. The guidelines are designed to prevent the false and misleading use of environmental terms such as "recyclable," "degradable," and "environmentally friendly" in the advertising and labeling of products. EPA is promoting their use among all manufacturers because it provides customers with accurate information regarding the environmental impact of their purchasing decisions. EPA is promoting use of the guidelines among cleaning product manufacturers so that the information they voluntarily provide for use in the environmental attributes matrix is accurate. EPA is also promoting their use among federal customers and suppliers to facilitate a general understanding of environmental marketing terminology.

Finally, the GSA/EPA team has initiated discussions with research teams at the University of California at Los Angeles (UCLA) and the City of Santa Monica, both of which are working on projects to quantify the advantages of using environmentally preferable cleaning products.

Future of the Cleaning Products Pilot Project

In addition to promoting and quantifying the use of the environmental attribute matrix, the GSA/EPA team is working to refine it. The team will be evaluating customer and vendor feedback to identify and remove attributes that have only minimal impacts on procurement decisions. Additional attributes related to human health impacts are also being considered, including increased dermal sensitization, chronic health risks, birth defects, and cancer risks.

Federal contracting officials are revising contract language and procedures to facilitate environmentally preferable purchasing by contractors. When new PBS cleaning service contracts are negotiated, for example, contractors are advised to consult the environmental attribute matrix in GSA's *Commercial Cleaning Supplies* catalog during pre-bid and post-award meetings with PBS officials.

GSA and EPA are also working closely with other Executive agencies and the U.S. Postal Service (USPS) to incorporate environmentally preferable cleaning products into existing procurement programs. In addition, the GSA/EPA team has provided information to USPS to develop a procurement training module emphasizing the environmental effects of procurement decisions, using the results of the Cleaning Products Pilot Project as a starting point.

GSA is also interested in expanding its customer base because it must be financially self-supporting and is no longer a mandatory source for government purchases. The Federal Acquisition Streamlining Act (FASA) of 1995 allows GSA to expand their customer base by permitting state and local governments to buy products and services from GSA's FSS schedules. Although implementation of this section of FASA is currently on hold, if the GSA schedule is opened to non-federal customers, the environmental attribute matrix developed by the GSA/EPA Cleaning Products Pilot Project will enjoy greater visibility, which will likely increase GSA's cleaning product sales.

EPP is being incorporated into new contracts.

Lessons Learned

The Cleaning Products Pilot Project is the first pilot project under the proposed *Guidance for Acquisition of Environmentally Preferable Products* under Executive Order 12873. As a result, many of the lessons learned could help guide future pilot projects. The following are highlights of some of the most important lessons learned:

Interagency Partnership Works

Interagency teamwork is not always easy due to different agency missions and cultures. In the Cleaning Products Pilot Project, for example, PBS officials were originally hoping for a list of environmentally preferable cleaning products that it could immediately begin using in the 7,700 Federal buildings it oversees. At times, PBS

officials felt that EPA was taking too long to reach consensus with manufacturers, trade associations, and vendors. PBS officials would have preferred to “just do it” and at times felt that things would have progressed more rapidly without EPA’s participation. Similarly, GSA’s FSS was primarily concerned with the demands of their customers—the federal purchasers—and feared that some of EPA’s technical proposals were too difficult to convey and would be ineffective.

EPA, on the other hand, wanted to accomplish three goals—(1) ground environmentally preferable determinations in hard science, (2) provide the customer with as much environmentally relevant information as possible, and (3) satisfy the needs of GSA, EPA, and the requirements of Executive Order 12873, while taking into consideration the diverse views of the stakeholders.

Despite these differences, GSA and EPA’s collaborative effort produced a more effective and scientifically sound approach to the pilot project than would have been developed if the agencies had acted independently. GSA contributed extensive cleaning product and procurement experience and EPA brought significant scientific, technical, and environmental expertise to the project. As a result, the project developed an approach that successfully meets the objectives of a broad audience, including cleaning product trade associations, manufacturers, unions, vendors, janitorial contractors, and users.

Be Patient as New Stakeholders Are Introduced

One of the unexpected difficulties encountered by the Cleaning Products Pilot Project team was identifying all of the stakeholders. Although attempts were made to identify all potential stakeholders before the project began, new stakeholders appeared at various times throughout its development. Each new stakeholder presented their own understanding of environmentally preferable purchasing and these understandings were not always compatible with the previous consensus. As a result, significant time was spent explaining, defending, and modifying decisions that had been made earlier in the process.

Satisfy the Customer

The customers in the Cleaning Products Pilot Project are Executive agency personnel who purchase cleaning products through GSA. Procedures for identifying environmentally preferable products must be easy for them to follow. Otherwise, the ultimate goal to increase the purchase of such products will not be achieved.

While the environmental attribute matrix was under development, the GSA/EPA team consulted with some of the government purchasers who would be using it. Their input was invaluable. For example, the language used in the catalog to explain how to use the matrix was crafted with the help of purchasing agents. Customer input helped guide the direction of the project and will help ensure its success.

Adopt Well-Defined Objectives and Be Pragmatic

The Cleaning Products Pilot Project has been successful, in part, because the project began with a narrow, but well-defined scope. The project was not designed to develop criteria for evaluating the environmental preferability of all cleaning products purchased by the government. Instead, the team decided to focus on evaluating a particular subset of cleaning products—daily-use general purpose cleaners and

degreasers—and identifying specific environmental attributes that would allow purchasers to select appropriate products. Additional cleaning products, such as floor care systems, carpet cleaners, sweeping compounds, and de-icing compounds, were not included in the pilot project because the additional attributes necessary for evaluating their environmental preferability were too numerous to include in one pilot project.

Additional Product Experience Is Important

The information gathered during the Cleaning Products Pilot Project's small-scale Philadelphia pilot project and the RMI provided an objective framework for comparing the relevant environmental attributes. Direct product experience is invaluable and necessary for adequately understanding the environmental and health and safety issues that must be considered when evaluating a product's environmental preferability. This further illustrates the importance of bringing together a team that includes the product's end user, along with procurement and environmental experts.

Does the Informational (Matrix) Model Work?

One of the earliest debates within the Cleaning Products Pilot Project was whether to use a "green dot" to identify environmentally preferable cleaning products or whether to adopt an informational (matrix) model. The supporters of the "green dot" approach were concerned that customers would not use additional environmental information if it were provided. Initial responses to an informal customer survey suggests otherwise. Customers have found the information "very useful." The GSA/EPA team is continuing efforts to assess the effectiveness of the informational approach through more formal means.

Change Is Slow

At the time this report was written, the GSA *Commercial Cleaning Supplies* catalog had been available for less than a year. While sales of biodegradable cleaners have steadily increased, they are still only a small part of the overall cleaning products market, even among government customers. Information dissemination is slow because government procurement is so decentralized. One GSA official compared changing the government's procurement procedures with turning the Queen Mary cruise ship in a bathtub, "It's not impossible, it just takes time and patience."

Vendor Cooperation Is Mutually Beneficial

Despite constraints limiting GSA and EPA's ability to gather complete cleaning product formulations, the Cleaning Products Pilot Project succeeded in developing practical and effective methods that allow purchasers to make environmentally preferable decisions based on information voluntarily provided by vendors. While not all vendors cooperated equally, those that provided information for the matrix have enjoyed increased visibility in GSA's *Commercial Cleaning Supplies* catalog.

EPA's Non-Regulatory Role

While the GSA/EPA team members acknowledge that EPA's involvement with the Cleaning Products Pilot Project was a crucial component in its success, some manufacturers and vendors were reluctant to voluntarily provide product information because of concerns that EPA was preparing to regulate the industry. These fears

were alleviated once they understood EPA's non-regulatory role and realized that the project was for their benefit, as well as the benefit of government customers, the general public, and the environment.

Environmentally Preferable Purchasing and Reinventing Government Share Important Goals

The Clinton Administration's Reinventing Government initiative is intended to improve federal government efficiency and responsiveness. Consistent with those goals, the Cleaning Products Pilot Project developed simplified methods that can be used by thousands of federal government purchasers worldwide to identify and buy environmentally preferable cleaning products. The matrix developed by the GSA/EPA team also allows the procurement agents to be more responsive to building tenants, custodial staffs, and local communities' environmental needs.

Government Procurement Flexibility Is Important

One of the most important reasons for the continued success of the Cleaning Products Pilot Project is a recent change in the way in which products and services can be purchased. Under President Clinton's Reinventing Government initiative, federal agencies are allowed to purchase commercially available products. This change allowed GSA to introduce environmentally preferable cleaning products to federal buyers faster than it could have under the previous system. It used to be necessary to develop government specifications for each cleaning product, a process that required significant time and resources. The increased flexibility under the new procurement procedures allows government buyers to immediately switch to environmentally preferable cleaning products.

The additional flexibility has also allowed GSA to expand its role beyond managing government contracts and overseeing supply. GSA is becoming a vital source of product information. GSA's Commercial Products Acquisition Laboratory (CPAL), for example, is currently investigating numerous commercially available products that could be made available to government customers at GSA's discounted rates. The performance and attribute information GSA is collecting will be made available to government customers to help them select products appropriate for their needs. GSA's new role will save federal buyers significant time and money because they will not have to independently collect the information necessary to compare products.

A more general benefit of the federal government's increased purchasing flexibility and emphasis on environmentally preferable purchasing results from the influence the government's purchasing preferences have on the consumer market. The government market is large enough that manufacturers will begin developing additional products with beneficial environmental attributes. These products will also be available to the public, which will result in an increase in the availability and use of environmentally preferable products.

Appendices

Appendix I: Cleaning Products Pilot Project Timeline*

February 1993	GSA and EPA begin a cooperative project to develop procedures for identifying environmentally preferable cleaning products.
May - December 1993	A small scale pilot project begins examining 19 cleaning products in Philadelphia, PA.
October 20, 1993	President Clinton signs Executive Order 12873.
November 20, 1993	A Memorandum of Understanding is signed between EPA and GSA that outlines their efforts on the Cleaning Products Pilot Project.
November 1993 - March 1994	GSA and EPA hold a series of stakeholder meetings with industry groups, labor unions, manufacturers, and vendors to discuss environmental procurement.
June 1994	The <i>Final Report East Philadelphia Field Office Pilot Study on Cleaning Systems</i> is released.
December 13, 1994	GSA and EPA hold an interagency focus group meeting to discuss environmental procurement issues.
June 5, 1995	GSA/EPA hold a series of meetings and briefings on the pilot project.
June 9, 1995	GSA sponsors a meeting with 12 affected vendors and trade associations to discuss information requests.
July 1995	EPA formats the environmental attribute information in a matrix that will be modified by the GSA/EPA team and published in the GSA catalog.
August 1995	EPA completes the RM1 for the 19 GSA cleaning products tested as part of the Philadelphia experiment.
August 1995	GSA/EPA complete the <i>Draft Guidance Document for Reporting Information on Environmental Attributes of Cleaning Products and Their Components</i> .
September 29, 1995	EPA publishes a Federal Register notice announcing proposed <i>Guidance for Acquisition of Environmentally Preferable Products and Services</i> and establishes seven guiding principles.
October 26, 1995	EPA holds a public meeting on the proposed general guidance on environmentally preferable products.
March 8, 1996	GSA <i>Commercial Cleaning Supplies</i> catalog is published, which includes the Biodegradable Cleaners and Degreasers section and environmental attributes matrix.

* Dates that are not bolded reflect events that occurred independently of the Cleaning Products Pilot Project. They are included as reference points.

Appendix II: GSA/EPA Memorandum of Understanding

MEMORANDUM OF UNDERSTANDING AND AGREEMENT

BETWEEN

THE ENVIRONMENTAL PROTECTION AGENCY

AND

THE GENERAL SERVICES ADMINISTRATION

IN THE SPIRIT OF COOPERATION AND TO IMPROVE WORK ENVIRONMENTS IN THE FEDERAL COMMUNITY an understanding and agreement is hereby established between the Environmental Protection Agency (EPA) and the General Services Administration (GSA) to examine materials used in the operation of Federal buildings.

IT IS UNDERSTOOD THAT AN INTERAGENCY AGREEMENT PURSUANT TO THE ECONOMY ACT (31 U.S.C. 1535) is hereby authorized and will be executed between the two agencies for the purpose of implementing the goals and objectives of this Understanding and Agreement.

THROUGH THE INTERAGENCY AGREEMENT, the EPA and the GSA will work together to provide quality work environments within the Federal workplace and take a proactive role regarding environmental quality issues as they relate to the Federal community; distribute information obtained through the efforts of this collaboration; raise awareness among the general population concerning environmental quality issues and building safety issues; and promote the environmentally preferred technologies in the Federal workplace.



Administrator
Environmental Protection
Agency

Nov. 29, 1993
Date



Administrator of
General Services

9/8/93
Date



We want to hear from you! Please tell us about your EPP activities and efforts. We are collecting and sharing information, tools, and hints about what works and what doesn't, as environmentally preferable purchasing evolves and expands. Please contact the EPP program by e-mail, regular mail, or fax:

Eun-Sook Goidel

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