



## Environmentally Preferable Purchasing In Action



# Cleaning Products Pilot Project Fact Sheet

**N**ow, federal buildings can be both green and clean, because government buyers have a tool for comparing cleaning products on the basis of their environmental attributes. A matrix was developed as part of the Cleaning Products Pilot Project that makes it easy to select a cleaning product based on local environmental needs. The project is a cooperative effort between the U.S. General Services Administration (GSA) and the U.S. Environmental Protection Agency (EPA) to facilitate the purchase of environmentally preferable products as required by Executive Order 12873.

The project is the first of many environmentally preferable purchasing (EPP) pilot projects being developed by EPA, in partnership with other federal agencies, to demonstrate how environmental considerations can be successfully incorporated into purchasing decisions.

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,  
*Federal Acquisition,  
Recycling, and Waste  
Prevention*  
October 20, 1993

### Project Overview

Cleaning products were selected as the first EPP pilot project, because they are used throughout the federal government. The project consisted of three phases:

- A field test to examine the performance, health and safety, and environmental impacts of several alternative cleaning products
- An environmental impact assessment conducted by EPA
- Developing a list of environmentally preferable cleaning product attributes.

After considering several methods for highlighting the key environmental attributes, the GSA/EPA team developed a matrix. It allows purchasers to identify and compare

commercial cleaning products with reduced human health and environmental impacts.

The matrix was first published in GSA's February 1996 *Commercial Cleaning Supplies* catalog, which was distributed to more than 15,000 federal government buyers. The catalog included a 13-page section listing 48 commercially available biodegradable cleaners and degreasers from 30 suppliers. Additional information on seven environmental attributes for 28 of the 48 products was voluntarily provided by the manufacturers and suppliers. The matrix allows purchasers to compare cleaning products based on the environmental attributes most critical for their geographic region and intended use.



<b>SOQ Environmental Technology</b>			
Ecomate-MPC (Concentrate)	SL	Exempt	N
Ecomate-MPC (Ready-to-Use)	SL	Exempt	N
<b>Sunshine Makers, Inc.</b>			
Simple Green	N-SL	Exempt	0
Crystal Simple Green	N-SL	Exempt	N
<b>Ultra Shield Products Int'l, Inc.</b>			
Ultra Shield Cleaner	N-SL	Not Reported	1
<b>Webaco Manufacturing Corp.</b>			
Scuzz (Concentrate)	ST	Exempt	3
Scuzz (Ready-to-Use)	ST	Exempt	3
<b>West Penetone</b>			
Citrikleen Aerosol	M	Exempt	3
Citrikleen	M	Exempt	6
Citrikleen HD	M	Exempt	10
Penair HD-1 Pump Spray	M	Exempt	1

\* This information was updated June 1997.

This matrix is an excerpt from GSA's summer 1997 *Commercial Cleaning Supplies* catalog. For a copy of the

## Key to Environ

### 1. SKIN IRRITATION



Some ready-to-use cleaning products may contain chemicals that can cause skin redness or swelling. If potential 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 can be taken up by smaller aquatic plants and animals. Chemical concentration can increase 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. 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 1,000 and products for which this attribute is "Exempt" are more preferable.

\*U.S. Government Printing Office, 1997 - 520-023

### 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. An "NA" (not applicable) indicates no VOCs of concern are 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.

# Biodegradable Cleaners

## Product A

### Product



Skin Irritation



Food Chain Exposure

Air Pollution

#### Alfa Kleen

AK-020

Not Reported

Not Reported

#### Allied Enterprises, Inc.

Clean Free

ST

Not Reported

#### American Cng. Solutions, Inc.

Tuff Job

M

12000

Easy Job

SL

Exempt

#### American Sanitary Products

Alpine Cleaner

Not Reported

Not Reported

#### Caljen Sales Company

Fast Clean

ST

12000

#### Charlie Chemical & Supply, Inc.

Charlie HD Clnr.

M

Exempt

Not I

#### Chemco Industries, Inc.

Enviro-Chem

M

Not Reported

Kleenzol 148

SL

Not Reported

#### Earth Clean Systems, Inc.

Degrease It

N-SL

Exempt

#### Electro Environmental Chemical

ECD-101

SL

Exempt

#### E.R.L., Inc.

E-Z Does It

M

Not Reported

Concentrate

M

Not Reported

Grease Cutter

M

Not Reported

#### Gaylord Industries, Inc.

Formula G-510

Exempt

8165

#### L&B Distributors & Mfg., Inc.

Klean E-Z

Not Reported

Exempt

Concentrate

Not Reported

Exempt

#### National Industries for the Blind

Detergent

SL

Not Reported

#### PCI of America

Hurrisafe 9010

N-SL

Exempt

Hurrisafe 9030

SL

Exempt

Hurrisafe 9040

SL

Exempt

#### Rochester Midland Creative Chem

2770

ST

7

Following publication of the matrix, more than 80 companies requested information on joining the program. Manufacturers provided environmental attribute information for three additional cleaning products, which were included in the matrix published in the July 1997 GSA catalog. GSA also expanded the matrix to include all of the cleaning products that meet the acute toxicity and biodegradability criteria detailed in the Federal Supply Schedule Contract for Biodegradable Cleaners/Degreasers (solicitation number FTC-92-MT-7906B). An excerpt from the revised matrix is provided on the inside of this fact sheet.

## Environmental Attribute Matrix

As shown inside this fact sheet, the matrix lists the seven environmental attributes selected by the GSA/EPA team across the top and provides information for each of the cleaning products underneath. None of the attributes is considered more important than any other. Each government buyer is allowed to select the most relevant attribute(s) for their needs and balance the available environmental information, along with traditional factors such as price and performance, when making purchasing decisions.

The following is a brief description of the seven attributes. Consult the matrix on the inside of this fact sheet for more detailed information on each environmental attribute.

### 1. Skin Irritation



Some cleaning products can cause skin redness or swelling. Products with a lower skin irritation potential are more preferable than those with a higher irritation potential.

### 2. Food Chain Exposure



Some cleaning products contain chemicals that can enter the food chain when consumed by aquatic plants and animals. Chemical concentrations can increase throughout the food chain as these plants and animals are consumed by larger animals. Products that contain ingredients that are less likely to accumulate in this manner are preferable.

### 3. Air Pollution Potential



Some cleaning products contain volatile organic compounds (VOCs) that can escape during product use. VOCs have been linked to smog formation, which has been shown to cause eye, nose, throat, and lung irritation and to cause asthma attacks. As a result, many state and local authorities have restrictions on the use of VOCs. The lower the VOC percentage, the more preferable the product.

### 4. Fragrances



Fragrances are added to some cleaning products to improve their odor or mask offensive odors. A basic principle of pollution prevention is to avoid additives that are unnecessary, which might suggest avoiding products with fragrance additives. Some people, however, consider fragrances necessary for aesthetic reasons or to distinguish among cleaning products. It is up to the individual government purchaser to determine if fragrances are a necessary ingredient.

### 5. Dyes



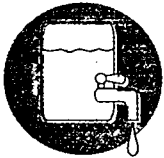
Like fragrances, some cleaning products contain dyes to change or enhance the aesthetics of a product. While the addition of dyes contributes little to the cleaning value of the product, it may be important for safety reasons, like differentiating between products and other liquids such as water. Again, a basic principle of pollution prevention is to avoid unnecessary additives, and it is up to the individual government purchaser to determine if dyes are a necessary ingredient.

## 6. Packaging- Reduced/Recovered Content



A product's packaging can account for a significant portion of the product's contribution to the solid waste stream. EPA's recommended approach to managing solid waste is to reduce product packaging and use recovered materials when packaging is necessary. Products with reduced packaging or recovered content packaging are preferable. Reduced packaging, however, often results in a product being shipped as a concentrate, which can create additional human health or environmental risks. As a result, the following attribute is related to product packaging.

## 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. It is preferable that products shipped as concentrates are provided in packaging that minimizes concentrate exposure.

## Alternative Methods for Identifying Environmentally Preferable Products

The environmental attribute matrix was not the only method considered to promote the purchase of environmentally preferable cleaning products. The GSA/EPA team also considered establishing thresholds for individual environmental attributes. Products that met the thresholds would be placed on a list of "green" cleaning products or be identified by a "green dot." Proponents of this method suggested that this would be the most convenient for government buyers.

Others felt that if minimum environmental performance criteria were established, manufacturers would have no incentive to exceed the minimum criteria. They also suggested that, although a "green dot" would make it easier for buyers, it might also obscure vital environmental information including which environmental attribute(s) warranted the "green dot." Such information is important, because government purchasers buy cleaning products for a variety of situations—from remote forest service outposts to entire military bases—each of which has unique environmental and performance needs.

The environmental attribute matrix was selected over the "green dot," because it allows purchasers to compare product attributes and select products that meet their predetermined environmental, performance, and cost requirements.

## Environmentally Preferable Purchasing

Environmentally Preferable Purchasing (EPP) promotes federal government use of products and services that have reduced impacts on human health and the environment. Such purchases are required by Executive Order 12873, *Federal Acquisition, Recycling, and Waste Prevention*. The Executive Order also directed EPA to develop guidelines to help federal agencies incorporate environmental preferability into their purchasing procedures.

# aners & Degreasers

## tribute Matrix\*

Potential	Fragrances	Dyes	Packaging- Reduced/Recovered Content	Minimizes Exposure to Concentrate
	No	No	Yes/Yes	No
	Yes	Yes	Yes/Yes	No
	No	Yes	Yes/Yes	No
	No	No	Yes/Yes	No
	No	No	Yes/Yes	No
orted	No	No	No/NA	NA
	No	Yes	Yes/Yes	No
	No	Yes	Yes/Yes	No
	No	No	Yes/NA	No
	No	No	No/Yes	NA
	Yes	Yes	No/NA	NA
	Yes	Yes	Yes/NA	No
	No	No	No/NA	NA
	No	No	Yes/Yes	No
	Yes	Yes	No/Yes	NA
	Yes	Yes	Yes/Yes	No
	No	No	No/Yes	NA
	No	No	No/NA	NA
	No	No	Yes/NA	No
	No	No	Yes/NA	No
	No	No	Yes/NA	No
	No	No	Yes/NA	Yes

No	No	Yes/Yes	No
No	No	No/Yes	NA
Yes	Yes	Yes/Yes	No, Small Sizes. To Limited Extent, Large Sizes
No	No	Yes/Yes	No, Small Sizes. To Limited Extent, Large Sizes
No	Yes	Yes/Yes	No
No	No	Yes/NA	No
No	No	No/NA	NA
No	No	No/NA	NA
No	No	Yes/NA	No
No	No	Yes/NA	No
No	No	No/NA	NA

complete matrix, visit GSA's website at <http://www.northwest.gsa.gov/ss/pn/chem/cleaning/camp.htm>

## Environmental Attributes

### 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 and other liquids, such as water. Again, a

basic principle of pollution prevention is to avoid unnecessary additives. Dyes present for aesthetic reasons may not be providing a necessary function. End-users must decide what is necessary in their specific situations. "Yes" indicates that dyes have been added to the product; a "No" indicates that they have not been added.

### PACKAGING-REDUCED/RECOVERED CONTENT

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, to reduce packaging of products and, second, to recycle packaging materials. The EPA has issued packaging guidelines for vendors to follow. This is a 2-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

1386, 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 "Yes" 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 "To Limited Extent" indicates that the concentrate is premeasured and prepackaged but not designed to be transferred among closed containers. A "No" in the column indicates that the concentrate is shipped without specific exposure controls. This offers greater exposure potential. An "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.

## Future EPP Pilot Projects

Although not a project objective, as the first EPP pilot, the Cleaning Products Pilot Project is likely to influence the direction of future pilots. Some of the lessons learned from this pilot may be specific to cleaning products, while others may be relevant for other product categories. Other EPP projects, for example, may adopt alternatives to the environmental attribute matrix to help government buyers make purchasing decisions. Each environmentally preferable pilot project will be unique due to the differences between the product categories, environmental attributes being examined, and the stakeholders involved.

Additional EPP projects are being developed and implemented by federal, state, and local government agencies, as well as in the private sector. Future fact sheets and case studies will document their successes.

## For Additional Information

EPA's Pollution Prevention Information Clearinghouse (PPIC) has several EPP documents available, including Executive Order 12873 on *Federal Acquisition, Recycling, and Waste Prevention*; EPA's *Guidance on Acquisition of Environmentally Preferable Products and Services* (60 FR 50722); and the *Cleaning Products Pilot Project Case Study* (EPA742-R-97-002), which documents the history of and lessons learned from the pilot project.

For copies or additional information, please contact:

EPA/PPIC  
401 M Street, SW. (7409)  
Washington, DC 20460  
Phone: 202 260-1023  
Fax: 202 260-4659

To order a copy of GSA's *Commercial Cleaning Supplies* catalog, which includes the most recent update to the environmental attribute matrix, please contact:

GSA/FSS  
Paints and Chemicals  
Center (10FTI)  
400 15th Street, SW.  
Auburn, WA 98001-6599  
Phone: 800 241-7246



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