

**GUIDELINES AND SPECIFICATIONS FOR THE PROCUREMENT AND
USE OF ENVIRONMENTALLY SENSITIVE CLEANING AND
MAINTENANCE PRODUCTS FOR ALL PUBLIC AND NONPUBLIC
ELEMENTARY AND SECONDARY SCHOOLS IN NEW YORK STATE**

New York State Office of General Services

Guidelines Originally Released on August 4, 2006

Guidelines Revised on August 28, 2006 (**Change Made to Sanitary Paper Products
Portion of the Guidelines**)

These Guidelines and Specifications were developed in consultation with representatives of the Department of Environmental Conservation, Department of Health, Department of Labor and State Education Department, as directed by Chapter 584 of the Laws of New York, 2005.

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I. OVERVIEW

These Guidelines were developed with the recognition and understanding that they will act as a catalyst for study, advancement of knowledge and changes in products and their availability. The marketplace is expected to adapt over time as knowledge improves, new or modified products become available and product applications are better understood through research, usage and observation. Therefore, OGS is issuing these Guidelines with the intent that they will be changed when necessary. This will allow New York State to establish a high standard for schools to work towards now, while additional information can be evaluated to make the standard even more health and environmentally sensitive within the next 12-18 months. OGS anticipates working with Green Seal, Environmental Choice of Canada, and the United States Environmental Protection Agency's (EPA's) Design for the Environment (DfE) program, as well as with a number of stakeholders, such as industry and environmental groups, to update the GS-37 standards or create a new standard for schools. Any changes to these Guidelines will be based on solid scientific studies and research.

Schools are expected to use this document to meet the implementation date of September 1, 2006. However, nothing in the legislation precludes elementary and secondary schools from depleting existing cleaning and maintenance supply stores purchased prior to September 1, 2006. OGS has provided a section in this document as well as on our website that provides guidelines for vendors to follow to submit cleaning products for approval. In addition, OGS developed lists of environmentally sensitive cleaning and maintenance products (OGS green cleaning products) for cleaning products and vacuum cleaners for schools to use.

The Office of General Services will amend these guidelines and criteria to reflect higher standards for environmentally sensitive cleaning and maintenance products as the marketplace responds by providing products which are more health and environmentally sensitive.

A. Purpose of Guidelines and Specifications

The primary focus of this process is to protect children and employee health by enabling schools to select products that clean effectively and minimize any adverse impacts on children and employee health and the environment. Even more so than adults, children can be vulnerable to, and may be severely affected by, exposure to chemicals, hazardous wastes, and other environmental hazards. The EPA estimates that human exposure to air pollutants indoors can be two to five times, and occasionally up to 100 times, higher than outdoor levels. Children, teachers and employees spend a significant part of their lives in school buildings, which may contain harmful chemicals from cleaners and other

maintenance products. Health concerns due to the presence of these chemicals may require schools and the State to incur substantial costs in terms of staff time and effort, cleanup costs and school closings. Discharges of chemicals from cleaning and maintenance products may also burden publicly owned wastewater treatment works, and may eventually end up in our lakes and streams. Therefore, it is essential that green cleaning products are both environmentally sensitive as well as environmentally sustainable from the perspective of waste minimization and the reduction of toxic chemicals during manufacturing.

This document recommends a mechanism for schools to select products that have comparable or superior utility (e.g. cleaning effectiveness) to products currently used in schools. The goal of using environmentally sensitive cleaning and maintenance products is to reduce, as much as possible, exposure of children and school staff to potentially harmful chemicals and substances used in the cleaning and maintenance of school facilities. This goal must work hand in hand with the requirement that cleaning products clean effectively by insuring the removal of soil from surfaces without damaging the surface and virtually leaving no soil or chemical residue.

B. Intent of the Legislation

New legislation amended the New York State Education law (409-i) and State Finance law (163-b) related to the procurement and use of environmentally sensitive cleaning and maintenance products in public and nonpublic elementary and secondary schools. The legislation requires, among other things, that the State Office of General Services (OGS) in consultation with other State agencies, establish and maintain guidelines and specifications for the procurement and use of such products and develop a list of environmentally sensitive cleaning and maintenance products (green cleaning products)

The law is not voluntary. It is mandatory for all elementary and secondary schools in New York State to comply with this legislation.

C. Guidelines Process and Development

In consultation with the State Education Department (SED), Department of Health (DOH), Department of Labor (DOL) and the Department of Environmental Conservation (DEC), OGS has reviewed and evaluated existing research regarding environmentally-sensitive cleaning and maintenance products. OGS has met or talked with representatives from the EPA, various States, consultants, vendors, environmental groups, chemical manufactures, testing laboratories, and concerned citizens concerning all aspects of “green cleaning”. In addition, OGS posted the “PROPOSED GUIDELINES AND SPECIFICATIONS FOR THE PROCUREMENT AND USE OF ENVIRONMENTALLY SENSITIVE CLEANING AND MAINTENANCE PRODUCTS FOR ALL PUBLIC AND NONPUBLIC ELEMENTARY AND SECONDARY SCHOOLS IN NEW YORK STATE” for comment on our website and provided notice on the public register, as well as sending a copy to all vendors on the OGS vendor list. OGS extended the timeframe to provide comments. OGS received 208 letters and comments, which have been organized into 54 categories. The letters and

comments were reviewed and responses were created, and in some cases the comments led to changes to these Guidelines.

D. Definition of Environmentally Sensitive Cleaning and Maintenance Products

"Environmentally sensitive cleaning and maintenance products" are defined as cleaning and maintenance products that minimize adverse impacts on children's health and the environment, while cleaning effectively, as determined by the OGS Commissioner. In this document the term "green cleaning products" will replace the language, "environmentally sensitive cleaning and maintenance products". Public and non public elementary and secondary schools are to use these guidelines in selecting products that are available in the "form, function and utility" currently used by schools. Cleaning and maintenance products that are the same in form, function and utility as products currently used in schools, but that have eliminated or lowered concentrations of potentially harmful chemicals, are increasingly being developed and are available in the marketplace.

E. Relationship to Executive Order #134

OGS is also responsible for implementing Executive Order #134, which requires all State Executive agencies to adopt environmentally preferred cleaning products. OGS plans to share these guidelines and specifications, along with a list of green cleaning products, with all State Executive agencies.

F. How school districts should use these Guidelines and the lists of OGS Green cleaning products to make purchases.

1. Use up your existing inventory of products, if they are not on one of the OGS green cleaning product lists.
2. OGS has developed two lists of green cleaning products for schools to use. These include Cleaning Products (general purpose cleaners, bathroom cleaners, carpet cleaners and glass cleaners) and Vacuum Cleaners.
3. Select a specific product category, such as Glass and Window Cleaner, and review the OGS list of green cleaning products for Glass and Window Cleaners.
4. Review your purchasing procedures (The State Education Department Purchasing Handbook at <http://www.emsc.nysed.gov/mgtserv/purchasing/handbook.htm>).
5. Most public schools are required to consider Preferred Source vendors first, before selecting a product from a non Preferred Source vendor, and the list has a column indicating if a product is from a preferred source vendor. (See Chapter 5 of the Purchasing Handbook as well as the NYS Preferred Source Guidelines on the Office of General Services' website at <http://www.ogs.state.ny.us/procurecounc/pdfdoc/psguide.pdf>)
6. Work with your janitorial staff to try/test one or more new green products contained on the OGS green cleaning product list. Get feedback from staff, and determine if this new product meets your cleaning needs.

7. Obtain pricing information from the vendor(s).
8. Use the “**Cost Calculator for Green Cleaning Products**” which is located on the ESU website at:
<http://www.ogs.state.ny.us/bldgadmin/environmental/default.html>. The link to the “Cost Calculator for Green Cleaning Products” is on the left side of the ESU webpage.
9. The Cost Calculator has been provided to allow all vendors and customers to calculate the costs of diluted cleaning solution per gallon based on manufacturer’s recommendations for a specific cleaning product category.* OGS is providing this calculator in an effort to help custodial managers calculate the per-use cost of cleaning products that get diluted, such as detergents. A per-gallon or per-pound price may look good on paper, but the actual cost per gallon of diluted cleaning solution (i.e. washing or mopping solution) is the price that determines competitiveness.
10. Require the selected vendor to provide training to staff before products are used.
11. Maintain records of your purchases, and what products were replaced, so you have information for future reporting requirements as required by the legislation.

** Product dilution rates should be handled as simply as possible. Some vendors may confuse matters by stating that their products can work at a variety of dilution rates. They may talk about light, medium and heavy soils, but you are looking for their suggested or recommended dilution rate for conditions commonly encountered in your school. You may need to experiment with various dilution rates within your school, but you are looking for the rule, not the exceptions, concerning the optimum dilution rate for a specific cleaning product used in your school.*

II. RELATED RULES AND GUIDELINES

OGS recognizes that certain circumstances (e.g. blood spills) and locations (e.g. food service, swimming pool areas, nursing offices, school-based health centers, and in-school child day care centers) may require special cleaning practices that are prescribed by existing laws, regulations or professional guidance. The law for green cleaning does not supersede or change existing health, labor, education and environmental regulations and professional guidance related to cleaning and maintenance practices and disposal of hazardous chemicals. During the process of selecting green products and practices, schools should identify areas and activities, such as those described above, where special cleaning practices and products are prescribed. In circumstances where the use of disinfectants and sanitizers or other special cleaning practices are prescribed, personnel must be trained in the proper use of these products and label directions must be followed.

The following are examples of laws, guidelines and professional guidance that are relevant to cleaning and maintenance practices in schools.

- 1. Department of Health (DOH)
Health and Sanitary Codes:**

Schools should contact their local health departments for an interpretation of what is acceptable for use in food service areas and swimming pools. Relevant state codes can be found as follows:

- Food Service Establishments (Subpart 14-1):
 - Equipment and Utensil Cleaning and Sanitation - Sections 14-1.110 thru 14-1.117
 - Plumbing - Sections 14-1.143
 - Construction and Maintenance of Physical Facilities - Sections 14-1.172 and 14-1.173
- Swimming Pools (Subpart 6-1)
 - Operation, Supervision and Maintenance – Section 6-1.10
 - Bathhouse and Toilet Facilities - Section 6-1.15

In order to access the aforementioned sections of the State Sanitary Code go to: www.health.state.ny.us/nysdoh/phforum/nycrr10.htm

Click on “Search Title 10” at the website listed above. In the "Search For" box, type in the Section number. For example, type in "Section 14-1.110" and click "Search" to be directed to the link for Section 14-1.110. Click on the link to access the section.

2. Office of Children and Family Services (OCFS)

- Child Day Care Centers (Subpart 418-1.11)
For information on NYCRR Title 18 and how to obtain a copy go to:
<http://www.health.state.ny.us/nysdoh/phforum/nycrr18.htm>

Click on “Search Title 18” at the website listed above. In the "Search For" box, type in the part number. For example, type in "Part 418" and click "Search" to be directed to the link for Part 418.

3. Occupational Safety & Health Administration/Public Employee Safety and Health Administration (OSHA/PESHA)

The environmentally sensitive cleaning legislation encourages school districts and facility managers to assess cleaning needs when selecting cleaning and maintenance products, while minimizing adverse impacts to children, teachers, other school staff and the environment. This approach conforms with OSHA/PESH safety and health standards. Such standards would include General Housekeeping, Hazard Communication, Bloodborne Pathogen requirements e.g. nurse’s offices, gymnasiums, laboratories, etc.

Within New York State, OSHA regulates private sector employers. PESH regulates all public sector employers. Further information is available from the following websites:

- (1) <http://www.osha.gov/>
- (2) <http://www.labor.state.ny.us/workerprotection/safetyhealth/faq.shtm#2>

4. State Education Department (SED)

- (Public Schools only): Building Condition Survey §155.4(b)(1)(ii)(m)
 - Environmental features, including cleanliness shall be inspected and reported as part of the building condition survey.
- (Public Schools only): Annual Visual Inspection §155.4(2)(ii)
 - Environmental features, including cleanliness, shall be re-inspected and reported as part of the annual visual inspection process.
- Control of Communicable Disease in the School Setting Guideline:
 - The school environment is conducive to the acquisition, transmission, and prevention of communicable disease. As part of maintaining a safe and healthy environment for the school community, certain general and disease specific control procedures need to be instituted to minimize the inherent risks. In order to deal effectively with a communicable disease event, a school district should establish policies and procedures in advance. This will allow for a logical, rational plan of action, should an outbreak occur. Some guidelines have been developed to provide a practical reference for school health professionals in the care of children in the school setting.

Further information about this Guidance is available at the following website:

<http://www.schoolhealthservices.org/uploads/Control%20Communicable%20Diseases-August%2018%202005%20final.pdf>

5. Department of Environmental Conservation (DEC)

- Disposal of Cleaning Products
 - <http://www.dec.state.ny.us/website/dshm/index.html>
- The link listed above will provide information on existing regulatory programs related to Hazardous Waste and Solid Waste, however, there is no specific information regarding the disposal of cleaning products. Therefore, the following information was provided by the DEC Solid & Hazardous Materials Unit to address this issue:
 - It is incumbent upon any entity that generates a solid waste to make a determination if in fact their waste is hazardous. Under the regulations, this can be accomplished by testing (TCLP: Toxicity Characteristic Leaching Procedure: Soil sample extraction method for chemical analysis) or by knowledge which is verifiable. It is important to know the contents of materials and products being used, and with any contamination the waste may have acquired during its normal use.
 - Product information is available from manufacturers and distributors. Products which don't provide this information should be avoided. When a generator gathers all the information which is reasonably available to them, then they should be able to make a proper waste determination. Once that is accomplished, the department can easily advise them as to disposal which is safe and in compliance with environmental law and regulation.

III. CHARACTERISTICS OF GREEN CLEANING PRODUCTS

The term green cleaning is synonymous with environmentally sensitive cleaning. These terms are often used interchangeably to describe cleaning and maintenance products that protect human health and the environment without sacrificing product effectiveness. The program described herein will allow New York State schools to select cleaning products from OGS green cleaning product lists or eventually from a New York State green cleaning product contract and provide users with an opportunity to try a variety of “green cleaning products”. This will also provide schools with an opportunity to deplete existing cleaning supplies and replace them with more environmentally sensitive alternative products.

The following criteria, which focus solely on some of the health and environmental attributes of green cleaning, were developed by Green Seal, Inc. They are meant as an overview of the health and environmental characteristics that make a cleaning product environmentally sensitive or green. Please see Appendix #3 for a more detailed explanation.

1. The undiluted compound shall not be hazardous to humans.
2. The undiluted product shall not contain any ingredients that are carcinogens or that are known to cause reproductive toxicity.
3. The undiluted product shall not be a skin sensitizer as tested by the Organization for Economic Co-operation and Development (OECD).
4. The undiluted product shall not be corrosive to the skin or eyes. Dispensing system concentrates shall be tested as used.
5. The undiluted product shall not be combustible.
6. The product as used shall not contain substances that contribute significantly to the production of photochemical smog, tropospheric ozone, or poor indoor air quality.
7. The product as used shall not be toxic to aquatic life.
8. Each of the organic ingredients in the product as used shall exhibit ready biodegradability in accordance with OECD definition except for a Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)-registered ingredient in a bathroom cleaner and the polymer portion of a carpet cleaner. However, all other ingredients in a FIFRA-registered bathroom cleaner or carpet cleaner must comply.
9. The product as used shall not contain more than 0.5% by weight of total phosphorus.
10. The primary packaging shall be recyclable. Alternatively, manufacturers provide for returning and refilling of their packages
11. The product must be a concentrate, except for FIFRA-registered bathroom cleaners and absorbent compound carpet cleaners.
12. Manufacturers shall identify any fragrances on their material safety data sheets (MSDS's). Manufacturers shall identify any fragrances on their MSDS's. Any ingredient added to a product as a fragrance must follow the Code of Practice of the International Fragrance Association.
13. Prohibited ingredients include:

- Alkylphenol ethoxylates
 - Dibutyl phthalates
 - Heavy metals including arsenic, lead, cadmium, cobalt, chromium, mercury, nickel or selenium.
 - Ozone-depleting compounds
 - Optical brighteners
- 14. Training**
- The product manufacturer, its distributor, or a third party shall offer training or training materials in the proper use of the product. These shall include step-by-step instructions for the proper dilution, use, disposal, and the use of equipment. Manufacturers shall have product labeling systems to assist non-English-speaking or illiterate personnel.
- 15. Animal Testing**
- Green Seal wants to discourage animal testing and will accept the results of past peer-reviewed or standard tests demonstrating compliance with a criterion. A mixture need not be tested if existing information demonstrates that each of the ingredients complies with a criterion. Additionally, Green Seal may accept non-animal (in-vitro) test results, providing that the test methods are referenced in peer-reviewed literature and the manufacturer provides the reasons for selecting the particular test method.
- 16. Labeling Requirements**
- The manufacturer's label shall state clearly and prominently that dilution with water from the cold tap is recommended and shall state the recommended level of dilution. Carpet cleaner labels shall specify the use of cold water for products that do not suffer significant performance degradation in cold water. The manufacturer shall also include detailed instructions for proper use and disposal and for the use of personal protective equipment. Whenever the Green Seal certification mark appears on a package, the package shall contain a description of the basis for certification. The description shall be in a location, style, and typeface that are easily readable. Unless otherwise approved in writing by Green Seal, the description shall read as follows:
 - "This product meets Green Seal's environmental standard for industrial and institutional cleaners based on its reduced human and aquatic toxicity and reduced smog production potential." For FIFRA-registered bathroom cleaners, replace "toxicity" with the word "impacts".

IV. BEST CLEANING MANAGEMENT PRACTICES

The foundation of an effective environmentally sensitive cleaning program is built on using the best methods, the most effective practices and equipment, in addition to selecting green cleaning products that work effectively. Making both good selections and following best practices are essential to minimizing adverse impacts on children's health and the environment. As part of the effort to identify appropriate cleaning products and services needed in schools, the following concepts have been developed that describe best practices. Each of these practices may be applied to specific cleaning needs. More detailed information on best cleaning practices can be viewed

through a website from the Collaborative for High Performance Schools, as part of Section IV “Maintenance and Operations of their Best Practices Manual” by clicking: http://www.chps.net/manual/documents/BPM_2006_Edition/CHPS_IV_2004.pdf

A. Reduce the need to clean. Prevent, to the extent possible, soil and other contaminants from entering the facility.

Effective entrance floor matting systems can remove significant quantities of dirt from foot traffic entering a facility. Matting protects floors by stopping moisture and dirt at the door, makes floors easier to clean, and makes floors safer by reducing slipping.

B. Follow instructions and precautions provided by the manufacturer.

All products should be used following instructions or precautions provided by the manufacturer. Carefully follow the instructions for diluting the product before use. Using more product than recommended can result in damage to surfaces being cleaned and/or will produce a residue. Germicides must be left on the surface for the time specified on the product label for it to be effective. Carefully follow mixing precautions. Some products can produce hazardous gases if they are mixed with other products.

C. Clean first, then only use a disinfectant or germicide if needed.

1. First and foremost, a clean, residue-free surface is a top priority.
2. Clean first, then disinfect or sanitize only when and where necessary. Surfaces must be cleaned thoroughly, whether or not disinfectants are used.
3. If any product claims to be a disinfectant or sanitizer, then **IT MUST BE REGISTERED BY Department of Environmental Conservation** as an approved antimicrobial product. To be included on the OGS green cleaning product list, OGS will require the manufacturer to submit the "Certificate of Pesticide Registration" for any product that makes a disinfecting, sanitizing, antibacterial or other antimicrobial claim. Consumers can also check the joint Cornell-DEC website listing of registered pesticides to confirm registration of specific products at <http://pmep.cce.cornell.edu/pims/>.
4. If a school decides to use a disinfectant or sanitizer, personnel must be trained in the proper use of these products and label directions must be followed.

D. Minimize, to the extent practical, the use of products that leave a scent in the room.

1. Fragrance formulations are a complex mixture of chemical ingredients, often consisting of many chemicals. Fragrances are commonly used in cleaning products. In many cases, the fragrance ingredients are added for aesthetic reasons and do not affect the cleaning properties of the product. However, some of the fragrance ingredients can improve cleaning performance and some counter-act an

objectionable odor from the cleaning ingredients in a product or from the environment being cleaned.

2. Some chemicals used in fragrance formulations can be irritating to the eyes and airways. Some people with hyper-responsive airways or skin allergies experience asthma symptoms in response to inhalation or eye exposure to fragrances and related chemicals or to the perception of odor. Therefore, to the extent feasible, reduce the use of cleaning products that leave a scent in the room. One way to accomplish this is to avoid using products that have a fragrance added to create a scent. The lists of OGS green cleaning products identifies those products to which a fragrance has been added.

E. Purchase quality floor finishes.

1. A quality floor finish must handle wear and tear, require minimal burnishing, not powder easily and last without stripping for at least 3 years. Floors in some schools have reached 5-10 or more years without needing to be stripped.
2. A quality floor finish results in the easier removal of soil by dust mopping, followed by use of a quality cleaner on a daily basis to remove any remaining soil without leaving left behind soil or chemical residue. This minimizes the proliferation of dust, dirt, germs, molds, and other particulate matter that gets caught in poor quality flooring. Eventually, this type of residue often circulates throughout a school heating, ventilation, and air conditioning (HVAC) system, causing potential asthmatic and other health concerns for children.
3. Mopping detergents must be cold water formulated, free-rinsing, and leave virtually no soil or chemical residual after use. The use of a quality floor finish used properly in unison with a quality detergent, produces a clean surface generally free of potentially airborne soils and germs.
4. While substantial work has been done by a variety of manufacturers to develop “green” or environmentally sensitive floor finishes and floor strippers, there is not enough information indicating that these products meet OGS requirements for wear and tear, burnishing, and set time before stripping. Therefore, OGS is not precluding the use of green seal certified floor care products as long as they meet our standards, but OGS is not adopting the green seal standard at this time. Please see section VI for a detailed explanation of OGS requirements for floor finishes and floor strippers.

F. Use cold water.

1. OGS recommends the use of Cold Water Cleaning. School districts that currently use hot or warm water to clean with should experiment with green cleaning products that work with cold water. This will allow the cleaning professionals in each school district to weigh the pros and cons of using hot or cold water, to determine if one method cleans better than another for some or all applications, and whether or not there are cost savings associated with the use of cold water cleaning.
2. Hot water melts and spreads soils that are not dissolvable by water (grease, oil, fat, etc.) and those soils are likely to cling to the colder surface being cleaned,

such as the carpet. If the surface is not rinsed properly before it is allowed to dry, other soil particulates in the cleaning solution will also cling to the carpet causing a “left behind soil” residue.

3. Products that have been certified by Green Seal, Inc. are designed to work with cold water.
4. Hot water requires the use of a heat source, which is a waste of energy resources since today's detergent technology no longer needs heat to activate the cleaning action. In many schools the use of hot water requires starting up large boilers that are used to heat the school in the winter and produce hot water. The use of cold water saves money and reduces energy consumption labor — hot water washing requires a cold water rinse which is an added step.
5. In addition, from a safety standpoint, cold water will not cause severe burns as has occurred with the use of hot water.

G. Minimize the use of carpets in student occupied areas.

1. Districts are encouraged to minimize the use of carpets in student occupied areas, as will be noted in the New York State High Performance Schools guidelines (pending release by the State Education Department). This will eliminate many fibrous materials and the micro-organisms contained in them. The use of walk off mats, as noted in IV.A. above will also help with limiting dirt, dust and grime carried into the school and onto carpets.
2. Where carpets are used, select carpet products that emit **low** volatile organic compounds (VOCs), are impermeable to liquid and can be completely recycled. Products are available that will not absorb water, will not support mold growth, keeps contaminants close to the surface for easy removal, and will not require a separate adhesive for installation. The U.S. Department of Energy's National best practice manual <http://www.nrel.gov/docs/fy02osti/31545.pdf> states that carpet should only be used when its performance characteristics outweigh its environmental costs.

H. Vacuum carpets frequently prior to considering the use of any carpet cleaning products.

1. Carpets that are vacuumed regularly contain significantly less dirt, dust and food residue. A regular carpet vacuuming routine helps maintain environmental quality in school and extends the life of a carpet. It should also reduce the use of chemical and/or water-based shampoo extraction products.
2. Use extraction cleaning methods when needed, but always dry vacuum before using cleaning solutions. Use cleaning methods recommended by the carpet manufacturer.
3. For more information about carpet care and cleaning the Carpet and Rug Institute offers a number of useful fact sheets at http://www.carpet-rug.org/drill_down.cfm?page=2&requesttimeout=350.

I. Maintain vacuum cleaners and filters regularly.

1. Vacuums are a very effective tool in the cleaning of schools. However, it is essential that both the vacuum and the filters are maintained on a regular basis. A vacuum will not clean if the filter is clogged or the bag is full. Follow the manufacturer recommendations carefully.
2. Only use the approved filter and bag for the vacuum and make sure that they are properly installed in the equipment. If the filter and bag are not seated properly, particulates will bypass the filter and bag and contribute to poor air quality in the school.

J. Investigate the use of new cleaning technologies and equipment.

1. The use of microfiber cloths and mops, multilevel walk-off mats, two chamber cleaning buckets, carpet extractors, glide pads on chairs and desk legs, the proper grade floor polishing pads and floor stripping pads, and other advances in cleaning equipment should be investigated.
2. Costs should be weighed against the benefits to cleaning. A number of these products may already be available from preferred sources at the following link <http://www.ogs.state.ny.us/procurecounc/pdfdoc/psguide.pdf> and/or the industrial supplies contract, and/or a specific contract.
3. Investigate the use of "No Touch" cleaning systems. No touch cleaning systems are systems that combine pressure washing, chemical application, and wet vacuuming into a single process. These systems may minimize the use of chemicals through metering while allowing employees to avoid contact with chemicals as well as the surfaces to be cleaned. Districts may wish to evaluate the use of these systems in their facilities.
4. New types of materials and equipment based on new technologies are also important to help districts reduce the toxicity of products and equipment used in schools. Examples include the batteries in battery operated cleaning equipment such as floor buffers and scrubbers. Technological improvements have resulted in absorbed glass mat and gel cell batteries which are sealed and do not contain liquid acid, thereby eliminating hazards from acid spills, breakage, and off gassing during charging cycles.
5. New products also offer opportunities to conserve energy, reduce waste, and improve both the indoor and natural environments. For example, waterless urinals consume no water, have no moving parts, and are easily cleaned.

Districts should be aware of the possibilities of improving the environment, and eliminating hazardous materials through the use of new technologies and products.

K. Ensure all custodial and maintenance personnel are properly trained.

1. Training needs to involve a supplier or manufacturer representative demonstrating the proper use of a product and fielding questions.
2. Cleaning products require effective training and application to ensure optimum results. The product manufacturer, its distributor, or a third party shall offer training or training materials, ie. Videos, written materials, in the proper use of

products. Training shall include step-by-step instructions for the proper dilution, disposal and use of cleaning equipment. A product-labeling system should also be utilized to assist non-English speaking personnel.

3. Schools should participate in vendor training or provide their own training to staff to ensure that products are used properly.
4. Periodic monitoring of cleaning practices should be conducted to ensure new personnel are properly trained and existing personnel are following established procedures.

L. Leave virtually no residue.

Cleaning products should leave virtually no soil residue when used on a daily basis and therefore will not require a rinse step. Detergents that leave a considerable residue are unsanitary or force the need for an additional step of a fresh water rinse. A second step wastes time and water resources.

M. Provide faculty and/or staff with voluntary access to a spray bottle of the school's approved general green cleaning product.

It is recommended that faculty and/or administrative staff be offered training on the proper use of general green cleaning products selected for use by their respective school system. Such voluntary training would serve as a prerequisite for their limited access to a spray bottle that contains such a product. This will enable faculty and/or administrative staff or students (with direct adult supervision) to use an approved cleaning product in their own classroom or office if they believe it is necessary to do so. This will also help prevent potential problems that can develop when cleaning products are brought from home and used in combination with other products used by the school's cleaning staff. The mixing of certain products and chemicals can lead to unsafe and unhealthy environments.

N. Consider purchasing universal mounted dispensing/proportioning systems, not proprietary systems that can only be used with one company's cleaning products.

School districts should evaluate the availability of ***universal mounted dispensing/proportioning systems*** for various cleaning products. They allow a district to purchase and use cleaning chemicals and supplies from many different manufacturers and vendors. Proportioners are dispensing systems that are designed to dispense chemical concentrate from various sized containers and dilute with water to smaller containers. These products dispense a ready-to-use mixture to spray bottles, mop buckets, auto scrubbers or any other receptacle. Proportioners come in many different sizes with different features and benefits, such as:

1. Locking wire rack
2. Drip trays
3. Stainless steel cabinets

4. Metering tips to adjust chemical per requirements
5. High flow for bucket and auto scrubber fill
6. Low flow for spray bottle and gallon jug filling
7. Completely closed cabinet for the highest security
8. Product labeling that is also color coded
9. High hazard back flow preventor

OGS also recommends that schools consider only purchasing cleaning products with generic tops as the universal dispensing/proportioning systems generally only accept such containers.

O. Voluntarily investigate the procurement and use of sanitary paper products.

Further consideration has been given to the section of the guidelines dealing with paper products. OGS has not changed its position with respect to comments received in response to the publication of the draft guidelines insofar as we continue to disagree with comments that the environmental issues associated with the procurement, use and disposal of paper products are separate and distinct from the procurement of cleaning products.

Nonetheless, the clear focus of the underlying statute is on minimizing exposures to chemicals affecting human health and the environment and the statute does not speak directly to products or substances introduced into the school setting that do not constitute chemicals from cleaners, waxes, deodorizers and other cleaning and maintenance products.

Consistent with our position that paper products are available in differing forms, some of which may be more environmentally preferable than others when manufacturing processes and recycled material content are taken into account, it is expected that some schools will adopt policies that encourage acquisition and usage of environmentally preferable paper supplies associated with cleaning and maintenance, i.e., tissue paper, paper towels, wipes and similar products.

As of this time, August, 2006, there are no statewide contracts from which municipalities or subdivisions, including school districts can purchase paper products for cleaning and maintenance functions that are approved as being in compliance with the standards of either of the certification organizations that we have identified and whose standards have been adopted herein. Given the fact that a school district cannot readily and efficiently acquire such products, we have therefore removed a list of sanitary paper products that are approved by either Green Seal or Environmental Choice from the website.

This set of circumstances could leave an environmentally progressive school seemingly without choice or availability of products compliant with policies adopted and pursued within such district. Since that result is undesirable, we believe it appropriate to offer the following website addresses where either certified products are identified or where information can be obtained about postconsumer fiber content,

recovered fiber content, chlorine free, and elemental chlorine free manufacturing processes:

- Green Seal
<http://www.greenseal.org/certification/standards/tissuepaper.cfm>
(GS-01 Tissue Paper)
<http://www.greenseal.org/certification/standards/papertowels.cfm>
(GS-09 Paper Towels)
- Environmental Choice
http://www.environmentalchoice.com/images/ECP%20PDFs/CCD_086.pdf
(CCD-086 Hand Towels)
http://www.environmentalchoice.com/images/ECP%20PDFs/CCD_085.pdf
(CCD-085 Kitchen Towels)
http://www.environmentalchoice.com/images/ECP%20PDFs/CCD_082.pdf
(CCD-082 Toilet Tissue)
- United States Environmental Protection Agency
http://www2.ergweb.com/cpg/user/cpg_search.cfm

We plan to work over the next 12-18 months to review the sanitary paper product guidelines and determine if we can further improve our environmentally preferred criteria while still allowing for reasonable variety and innovation in the market.

a. Cost savings and waste reduction suggestions related to the procurement and use of sanitary paper products.

- Consider replacing single roll tissue dispenser with a dispenser that can hold multiple rolls. This will reduce the number of small rolls that get thrown away because the tissue would run-out before they were to be changed the following day or cleaning shift.
- Consider replacing multi-fold towel dispensers with large rolls dispensed from a touch-free dispenser to reduce not only paper consumption, but possible cross-contamination (the passing of potentially harmful organisms) from touching levers and cranks.
- Consider utilizing paper products that eliminate cores and wrappers that must be discarded.
- Consider utilizing paper that uses a case configuration to allow more to be shipped on a truck, thus reducing transportation impacts.

These simple strategies have been found to, among other things; reduce sanitary paper product consumption between 10 and 15 percent, which can be a good strategy to help offset any potential increase in cost for recycled paper.

V. CONSULTING TO DEVELOP ADVANCED CUSTODIAL PRACTICES

A separate bid will be issued for the “Consulting to Develop Advanced Custodial Cleaning Practices”. Professional consulting companies may offer “Consulting to Develop Advanced Custodial Cleaning Practices” to help enhance a custodial department’s systems and reinforce the logic not to use a product until custodial staff understand the basics of proper cleaning practices. This will be a voluntary opportunity for all public and nonpublic elementary and secondary schools in the state to use to their advantage. Ideally, this consulting should occur prior to the purchase of the cleaning products. This could be a multi faceted approach, whereby schools could purchase an entire consulting package or individual components, depending upon their needs. For example, one component of a consulting package could entail a computerized space analysis and equipment audit. The results would provide information on all areas needing cleaning, as well as suggested staff size based on the number and frequency of cleaning tasks in order to achieve various performance levels. Another component could be a customized training program, so custodial staff understand the proper use of cleaning chemicals, the variety of cleaning surfaces and how their jobs directly impacts the health and environment of the entire school. A third component could be the development of a program to measure progress and suggest improvement opportunities. Then, armed with the benefits of enhanced systems and restructured information, a basic understanding of pH, costs of labor vs. costs of products, and the chemicals staff are empowered to use, a more educated and informed decision can be made concerning the type of products needed and how best to use them. In addition, a good consulting program must focus on the psychological side of managing people, communication, interpersonal skills, motivation, and understanding change. Considering that most cleaning budgets are probably about 5-10% product, and 90-95% labor costs, and one can appreciate the importance of understanding and motivating staff. Consulting needs to be a combination of on-site training and distance learning.

VI. DESIGNATION OF OGS GREEN CLEANING PRODUCTS

A. These guidelines and specifications apply to the following environmentally sensitive cleaning and maintenance product categories:

- General Purpose Cleaners
- Bathroom Cleaners
- Carpet Cleaners
- Glass, Windows, and Mirror Cleaners
- Vacuum Cleaners
- Hand Soaps
- Floor Finishes and Floor Strippers

B. Basic Strategy

OGS has been guided by the principles for environmentally preferable purchasing described by the EPA, Office of the Federal Environmental

Executive, International Organization for Standardization and the Global Ecolabelling Network. For cleaning products, OGS identified the Green Seal, Inc. (see www.greenseal.org) and the Environmental Choice (see www.environmentalchoice.com) certification processes as generally meeting the intent of the legislation to help schools select environmentally sensitive cleaning and maintenance products. The Carpet and Rug Institute (see www.carpet-rug.org) was selected as having a certification process for vacuum cleaners that also meets the intent of the legislation for these products.

C. Selection of OGS Green Cleaning Products.

OGS will require any vendor/company wishing to be added to an OGS Green Cleaning list of environmentally sensitive cleaning and maintenance products to comply with the following standards (listed 1-5 below):

1. Green Seal, Inc. GS-37 or Environmental Choice CCD-146:

OGS is adopting the Green Seal, Inc. standard, GS-37 for industrial and institutional cleaners for General Purpose Cleaners, Bathroom Cleaners, Carpet Cleaners and Glass/Windows/ Mirror Cleaners. Products that have been certified under the Environmental Choice Program standard, CCD-146 that is managed by Environment Canada and TerraChoice Environmental Marketing will also satisfy the standard. (See Section VII for a definition of each product category, and Appendix 4 for a more detailed listing of the criteria that products must meet.)

- OGS will create a Green Cleaning product list by using both the Green Seal and Environmental Choice websites for products that have Green Seal or Environmental Choice certification for General Purpose Cleaners; Bathroom Cleaners; Carpet Cleaners and Glass, Window and Mirror Cleaners. There is no need for companies with either certification to submit the paperwork. (PLEASE REVIEW THE OGS LIST OF APPROVED GREEN PRODUCTS AND IF YOU BELIEVE YOUR COMPANY AND PRODUCTS SHOULD BE LISTED, PLEASE PROVIDE US WITH THAT INFORMATION.)
- Companies must submit information concerning a dilution rate for each product category for which they are submitting products. This is the optimum or suggested dilution rate, without requiring a rinse step.
- Companies that do not have Green Seal or Environmental Choice certification for a specific product in the cleaning categories mentioned above, but can prove they meet either the Green Seal Inc. GS-37 standard or the Environmental Choice health and environmental standard CCD-146 must:
 - a. Submit a complete and signed affidavit (see Appendix #1) from a certified testing laboratory stating that the cleaning product meets or exceeds either the Green Seal Inc. or the Environmental Choice standards.

- b.** Products meeting **a.** above will be placed on the OGS Green Cleaning Products list and identified as “Meets Standard” but is not certified.
 - c.** Products may randomly be tested by an independent laboratory to verify claims.
 - d.** Products found not to meet the standard will be removed from the list of OGS Green Cleaning products.
- For any product that make disinfecting, sanitizing, antibacterial or any other antimicrobial claims on its label or in its advertising, companies must submit the NYSDEC “Certificate of Pesticide Registration” to appear on OGS’s list of green cleaning products. Only Bathroom Cleaners will be permitted to carry these claims, as the GS-37 standard does not permit products making such claims to be listed as a general-purpose, carpet or glass cleaner.

2. *Green Seal, Inc. GS-41 / Environmental Choice CCD-104:*

OGS will adopt the Green Seal, Inc. and Environmental Choice Program standard (GS-41/CCD-104) for Hand Soaps. This is a jointly developed standard between Green Seal and Environmental Choice. (See Section VII for definition of product categories, and Appendix #5 for GS-41)

GS-41/CCD-104 was finalized in June 2006. Products are being accepted for certification by both certification programs. OGS recognizes that products suitable for general hand washing in schools are currently not listed. In recognition of this situation and the fact that the list is unlikely to have many products to choose from for several months, the Guidelines will advise schools that they can postpone purchasing products from these lists until after January 2007. By that time, a reasonable variety of products is anticipated to be available from the certified lists. A list of hand soaps will be developed as products can be demonstrated to meet this standard.

- OGS will create a green hand soap products list by using both the Green Seal and Environmental Choice websites for products that have Green Seal or Environmental Choice certification for Hand Soaps. There is no need for companies with either certification to submit the paperwork. (PLEASE REVIEW THE LIST OF OGS GREEN PRODUCTS AND IF YOU BELIEVE YOUR COMPANY AND PRODUCTS SHOULD BE LISTED, PLEASE PROVIDE US WITH THAT INFORMATION.)
- Companies that do not have GS-41/CCD-104 certification, but can prove they meet the standard, must submit a signed affidavit (See Appendix #1) stating that they meet the. GS-41/CCD-104 standard.
 - a.** Submit a complete and signed affidavit (See Appendix #1) from a certified testing laboratory stating that the cleaning product meets or exceeds the GS-41/CCD-104 standard.

- b. Products meeting a. above will be placed on the OGS list of green cleaning products and identified as “Meets Standard” but are not certified.
- c. Products may randomly be tested by an independent laboratory to verify claims.
- d. Products found not to meet the standard will be removed from the list of OGS green cleaning products.

3. *Carpet and Rug Institute (CRI) Green Label Standard*

OGS is adopting the Carpet and Rug Institute Green Label standard for vacuum cleaners and has created OGS green vacuum cleaners product list of vacuum that meet this standard.

To qualify for the Green Label standard, these vacuums must go through a stringent testing process that measures three key performance factors:

- **Soil Removal**
- **Dust Containment**
- **Carpet Appearance Retention**

(see Appendix 6 for a more detailed description of the testing protocol.)

- OGS has created a list of Green Vacuum Cleaners on the CRI website. There is no need for companies with Green Label certification to submit the paperwork. (PLEASE REVIEW THE LIST OF OGS Green Vacuum Cleaners AND IF YOU BELIEVE YOUR COMPANY AND PRODUCTS SHOULD BE LISTED, PLEASE PROVIDE US WITH THAT INFORMATION.)
- Companies that do not have the Green Label certification for their vacuum cleaner but can prove that they meet the Green Label standard must:
 - a. Submit a complete and signed affidavit (See Appendix #1) from a certified testing laboratory stating that the cleaning product meets or exceeds the Green Label standard.
 - b. Products meeting a. above will be placed on the OGS green vacuum cleaners list and identified as “Meets Standard” but is not certified.
 - c. Products may randomly be tested by an independent laboratory to verify claims.
 - d. Products found not to meet the standard will be removed from the list of OGS green vacuum cleaning products.

4. *Floor Protection Requirements*

At this time, New York State is not adopting the Green Seal, Inc. standard for floor finishes, wax/finish strippers, or spray burnishing gloss restorer liquids (GS-40). Floors constitute the single largest area of cleaning in a school. While substantial work has been done by a variety of manufacturers to develop a “green” or environmentally sensitive floor finish, we want to see some of the results of using these finishes over time, and that can only realistically be obtained by experience. **Floors constitute the single largest area of cleaning in a school.** Floors that require frequent burnishing, and/or powder easily, and/or need to be stripped frequently, can contribute significantly to indoor air pollution from

airborne particulates or to environmental pollution by unnecessary floor finish stripping effluents. Therefore, it is essential that floors are protected by a quality finish that is both easy to clean and can stand the rigors of day to day traffic.

Since health and safety, environmental impact, and labor costs are primary concerns, OGS is committed to encouraging the use of floor finishes that can withstand severe abuse without having to be stripped for 3 or more years and floor strippers that are able to completely lift old wax or finish without long soaking times. Durability and speed enables custodians to perform the task infrequently with minimal exposure to slippery and odorous stripping solutions. Because the job of floor stripping and refinishing should be performed when classes are not in session, many potential health risks are reduced to children, school staff and visitors. While substantial work has been done by a variety of manufacturers to develop “green” or environmentally sensitive floor finishes and floor strippers, OGS does not want to abandon proven accomplishments by requiring the use of products that have not stood the test of time. OGS first wants to see the results of using “green” floor finish/stripper system products over a period of time. Once it has been proven that “green” floor protection products perform equal to or better than the best of what is presently available, OGS can reevaluate these guidelines.

A. Floor Finish Requirements:

Companies wishing to qualify their floor finish products for inclusion on the OGS green cleaning products State list must do the following:

Submit signed OGS certification forms (Appendix #2), from **3 different educational facility customers (not from three (3) schools within the same district). These certification forms must be submitted with a cover memo from the company.** The forms must attest to the fact that:

- They have been and continue to use the floor finish in a heavily trafficked area;
- They have been maintaining the floor according to manufacturer’s instruction for 3 years or more in a heavily trafficked area without having to strip the floor finish back to the bare flooring;
- The floor finish retains its shine when burnished as little as once a month.
- **AND** that the floor finish virtually does not powder when burnished.

OGS will place products meeting such standards on a list of OGS floor finish products.

B. Floor Finish Stripper Requirements

Companies wishing to qualify their floor finish stripper products for inclusion on the approved State list must do the following:

Submit signed OGS certification forms (Appendix #3), from **3 different educational facility customers (not from three (3) schools within the same district). These certification forms must be submitted with a cover memo from the company.** The forms must attest to the fact that:

- Floor Finish Stripper must be a total floor finish liquefier and strip any old floor finish and/or the accepted floor finish as follows:
 1. Stripper is mixed in cold water.
 2. Stripping solution turns old finish white in 1 to 5 minutes and become totally liquefied when scrubbed with carbide-impregnated-brush mechanical action. (Use of black stripping pads may impede total removal of old finish by becoming impregnated with caked-in old floor finish causing the floor machine to "slide" ineffectively over finish not yet removed.)
 3. After the brushing action, 100% of the old floor finish must be ready for removal using a water vacuum squeegee.
 4. Immediately following the vacuuming of the spent floor finish, fresh cold water may be applied liberally and vacuumed up. (One fresh water rinse should be all that is needed—perform additional rinse steps if floor dries with a white haze.)
 5. When the floor dries, it must be 100% free of any white residue (old floor finish film).

OGS will place products meeting such standards on a list of OGS floor finish stripper products.

5. *Other Considerations*

- a. In order to promote the use of high performance cleaning products that adequately meet the performance needs of school environments, products approved for the OGS list may be required to undergo additional product efficacy testing after the first year of this program, as determined by OGS.
- b. Other products, such as metal cleaners, drain cleaners, mineral removers (for places with hard water), oven cleaners, graffiti removers, air fresheners, mold/mildew inhibitors /preventatives and other cleaning and maintenance products will be considered for addition to these Guidelines in the future.

VII. CLEANING PRODUCT CATEGORIES AND DEFINITIONS

A. *GENERAL PURPOSE CLEANERS*

This category includes products used for routine cleaning of hard surfaces including impervious flooring such as concrete or tile. It does not include cleaners intended primarily for the removal of rust, mineral deposits, or odors. It does not include products intended primarily to strip, polish, or apply floor finish, and it does not include cleaners intended primarily for cleaning toilet bowls, dishes, laundry, glass,

carpets, upholstery, wood, or polished surfaces. This category does not include any products required to be registered under Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), such as those making antimicrobial claims as sterilizers, disinfectants, or sanitizers.

Examples of types of soil they need to clean – petroleum products, vegetable oils and grease, animal fats and butter, sand, sugar and dirt tracked in from outside, normally low pH soils.

B. BATHROOM CLEANERS

This category includes products used to clean hard surfaces in a bathroom such as counters, walls, floors, fixtures, basins, tubs, and tile. It includes products that are required to be registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), such as disinfectants and sanitizers, but does not include products specifically intended to clean toilet bowls.

Any product making antimicrobial claims must be registered by DEC as a pesticide.

Examples of types of soil on toilets, urinals, sinks and fixtures, shower fixtures, drinking fountains, bathroom and shower walls, minerals deposits, shower floors include (but are not limited to):

- Feces, urine, and soap scum with lanolin and body oils.
- Mineral deposits found in water.

C. CARPET CLEANERS

This category includes products used for routine cleaning of carpets and rugs. This category may include, but is not limited to, products used in cleaning by means of extraction, shampooing, dry foam, bonnet or absorbent compound. It does not include products intended primarily for spot removal. This category does not include any products required to be registered under FIFRA, such as those making antimicrobial; claims as sterilizers, disinfectants, or sanitizers.

D. GLASS, WINDOW, MIRROR CLEANERS

This category includes products used to clean windows, glass, and polished surfaces. This category does not include any products required to be registered under FIFRA, such as those making antimicrobial claims as sterilizers, disinfectants, or sanitizers.

Examples of type of soil on glass, windows and mirrors include (but are not limited to):

- Petroleum products, vegetable oils and grease, animal fats and butter.

E. VACUUM CLEANERS

Recognizing the need to identify superior cleaning equipment, CRI introduced its Green Label Testing Program for vacuum cleaners in 2000. This program tests two

general categories of vacuums: **a)** general purpose vacuums approved for use on all conventional carpet styles; and **b)** vacuums specifically approved for use on carpet with a low pile, or surface texture, measuring approximately 1/4 inch or less.

F. HAND CLEANERS AND SOAPS

Hand soaps are designed to be used with water to remove both organic and inorganic soil from skin. Industrial products are used in garages, print shops, and other settings where heavy, oily soiling occurs. Institutional products are used in public washrooms. The standard does not address products that may be used in food preparation or health care areas. Hand wipes and sanitizers are also not addressed by this standard.

G. FLOOR FINISHES AND FLOOR STRIPPERS

At this time, OGS will not adopt the Green Seal, Inc. standard for floor finish and floor strippers (GS-40). While substantial work has been done by a variety of manufacturers to develop a “green” or environmentally sensitive floor finish, OGS wants to see some of the results of using these finishes over time, and that can only realistically be obtained by experience. **Floors constitute the single largest area of cleaning in a school.** Floors that require frequent burnishing, and/or powder easily, and/or need to be stripped frequently, can contribute to indoor air pollution from airborne germ-laden particulates. It can also cause environmental pollution by unnecessary floor finish polymers and “wax” stripping sludge effluence “going down the drain” and ending up in our sewer treatment systems and/or waterways. Therefore, it is essential from a human health and environmental standpoint that floors are protected by a quality finish that is both easy to clean and can stand the rigors of day to day traffic. Quality floor finishes, which are properly applied and maintained, help lower children’s exposure to indoor air pollution and reduce water pollution.

This category is composed of products that provide temporary/removable floor protection by the use of Floor Finish/Sealers as follows:

- Resilient Floor Coverings – Vinyl Tile, Sheet Goods (Linoleum)
- Hard Surfaces – Concrete, Terrazzo, Stone, Fired Tile, Marble, Slate

This category also includes floor strippers:

- Floor Strippers: There are two types of strippers based on the floor dressings being removed or stripped.
 1. **Waxes or natural products** – Some can remove polymers, but the stripping job will take much longer than do **liquefiers** developed for polymers.
 2. **Polymers or synthetic products** – **Liquefiers** were developed to break up and lift polymers and work just as quickly for removing finishes and natural products. (These floor strippers may be used on many floor surfaces, such as terrazzo, marble, resilient dimensional tile

and sheet floor coverings, finished synthetic wood flooring, poured liquid flooring, stone, etc.

VIII. REPORTING REQUIREMENTS

The legislation requires that “On or before June 1 2007, the State Education Department (SED), in consultation with OGS, issue a report providing an analysis of the impact of these guidelines and specifications on the purchasing, procurement, and use of environmentally sensitive cleaning and maintenance products by elementary and secondary schools.”

IX. APPENDICES

APPENDIX #1

AFFIDAVIT OF ENVIRONMENTALLY SENSITIVE PRODUCT STANDARDS*

STATE OF _____)
) ss.
 COUNTY OF _____)

I _____ of _____
NAME COMPANY NAME

being duly sworn depose and say that the product(s) listed below meet and/or exceed environmentally sensitive product standards. Please fill in the table shown below. If necessary, attach additional sheets. **Please provide documentation of the testing methods that are equivalent to those used in Green Seal, Inc. Certification, or used in Environmental Choice Certification Standards, for product(s) submitted.**

PRODUCT NAME	NAME AND ADDRESS OF COMPANY PROVIDING PRODUCT FOR TESTING	PRODUCT APPLI-CATION(S)	FRAGRANCE ADDED? Yes or No	DILUTION RATE Ounces/Gallon	GREEN SEAL INC., CERTIFI-CATION STANDARDS (Meets/Exceeds)	ENVIRONMENTAL CHOICE CERTIFICATION STANDARDS (Meets/Exceeds)

I/we understand that, should a determination be made that false information was knowingly submitted or omitted as part of this affidavit, it will result in immediate disqualification of your response and may result in the product(s) not being considered in the future.

Name of Testing Laboratory: _____

Address: _____

Name of the scientist conducting testing: _____

Signature of scientist conducting testing: _____

Official Title: _____ Telephone Number: _____

Dated: _____

THIS AFFIDAVIT SHALL REMAIN IN EFFECT FOR A PERIOD OF TWO YEARS UNLESS REVISED OR WITHDRAWN BY THE CERTIFYING MANUFACTURER.

THE AFOREMENTIONED INFORMATION VERIFIES THAT THIS PRODUCT(S) MEET AND/OR EXCEED ENVIRONMENTALLY SENSITIVE PRODUCT STANDARDS

Please submit all completed and signed forms to:

New York State Office of General Services, Procurement Services Group, 38th floor,
Attention: Don Pantan, Corning Tower, Albany, New York 12242

APPENDIX #2

CUSTOMER'S/BUSINESS' CERTIFICATION THAT MANUFACTURER'S FLOOR FINISH PRODUCT(S) MEET NYS OGS'S REQUIRED STANDARDS*

STATE OF _____)
) ss.
 COUNTY OF _____)

I _____ of _____
NAME CUSTOMER/BUSINESS NAME

attest that the floor finish product(s) listed below meet NYS OGS standards for inclusion on the OGS listing of floor finish products. Please fill in the table shown below. If necessary, attach additional sheets.

PRODUCT NAME	HAVE USED AND WILL CONTINUE TO USE PRODUCT IN HEAVILY TRAFFICKED AREA(S) (Yes or No) (If yes, specify area e.g. main building entrance hall etc.)	ⓄFLOOR FINISH HAS LASTED FOR AT LEAST (3) YEARS (IN A HEAVILY TRAFFICKED AREA) WITHOUT STRIPPING (Yes or No)	FLOOR FINISH RETAINS SHINE WHEN BURNISHED AS LITTLE AS ONCE A MONTH (Yes or No)	FLOOR FINISH VIRTUALLY DOES NOT POWDER WHEN BURNISHED PROPERLY (Yes or No)

ⓄPlease Note: The customer/business is certifying to the fact that they have maintained the floor according to manufacturer's instructions for 3 years or more, without having to strip the floor finish back to the bare flooring.

COMMENT SECTION: (If necessary, please use this section, or attach an additional sheet to clarify your responses to any of the above listed questions)

Name of Customer/Business: _____

Address: _____

Signature of Customer/Business Representative: _____

Official Title: _____ Telephone Number: _____

Dated: _____

***THE AFOREMENTIONED INFORMATION PROVIDED IN THIS CUSTOMER CERTIFICATION ATTESTS THAT THE PRODUCT(S) LISTED ABOVE MEET NYS OGS'S REQUIRED STANDARDS FOR FLOOR FINISH PRODUCTS.**

The company should submit all three (3) completed and signed forms, with a “cover memo” to:

New York State Office of General Services, Procurement Services Group, 38th floor,
Attention: Don Pantan, Corning Tower, Albany, New York 12242

APPENDIX #3

CUSTOMER’S/BUSINESS’ CERTIFICATION THAT MANUFACTURER’S FLOOR FINISH STRIPPER PRODUCT(S) MEET NYS OGS’S REQUIRED STANDARDS*

STATE OF _____)
) ss.
 COUNTY OF _____)

I _____ of _____
NAME CUSTOMER/BUSINESS NAME

attest that the floor finish stripper product(s) listed below meet NYS OGS standards for inclusion on the OGS listing of floor finish stripper products. Please fill in the table shown below. If necessary, attach additional sheets.

PRODUCT NAME	HAVE USED AND WILL CONTINUE TO USE FLOOR FINISH STRIPPER MIXED WITH COLD WATER (Yes or No)	ⓄFLOOR FINISH STRIPPER TURNS OLD FLOOR FINISH WHITE IN 1-5 MINUTES AND BECOMES TOTALLY LIQUIFIED WITH MECHANICAL ACTION (Yes or No)	AFTER MECHANICAL ACTION, 100% OF FLOOR FINISH IS READY FOR REMOVAL WITH WATER VACUUM SQUEEGEE (Yes or No)	FLOOR DRIES FREE OF WHITE RESIDUE AFTER WATER RINSE(S) (Yes or No)

ⓄPlease Note: The customer/business is certifying to the fact that they have used the floor finish stripper according to manufacturer’s instructions and that it meets the above requirements.

COMMENT SECTION: (If necessary, please use this section, or attach an additional sheet to clarify your responses to any of the above listed questions)

Name of Customer/Business: _____

Address: _____

Signature of Customer/Business Representative: _____

Official Title: _____ Telephone Number: _____

Dated: _____

***THE AFOREMENTIONED INFORMATION PROVIDED IN THIS CUSTOMER CERTIFICATION ATTESTS THAT THE PRODUCT(S) LISTED ABOVE MEET NYS OGS'S REQUIRED STANDARDS FOR FLOOR FINISH STRIPPER PRODUCTS.**

The company should submit all three (3) completed and signed forms, with a “cover memo” to:

New York State Office of General Services, Procurement Services Group, 38th floor,
Attention: Don Pantan, Corning Tower, Albany, New York 12242

APPENDIX # 4

ENVIRONMENTAL/HEALTH CRITERIA FOR CLEANING PRODUCTS (GS 37)

The criteria listed below apply to General Purpose Cleaners, Bathroom Cleaners, Carpet Cleaners and Glass/Window/Mirror Cleaners. They are taken from the GS-37 standard for Industrial and Institutional Cleaners maintained by Green Seal Inc.

1. The undiluted compound shall not be hazardous to humans (as defined below).
 - Dispensing-system concentrates shall be tested as used.
 - A product is considered hazardous if any of the following criteria apply:
 - Oral lethal dose 50 (LD_{50}) \leq 2,000 mg/kg
 - Inhalation lethal concentration (LC_{50}) \leq 20 mg/L*
 - If the vapor-phase concentration of the product at room temperature is less than 20 mg/L, it should be tested at its saturation concentration. If it is not toxic at this concentration, it passes the inhalation criterion.
 - Toxicity shall be measured on the product as a whole. Alternatively, a mixture need not be tested if existing toxicity information demonstrates that each of the ingredients complies.
 - Ingredients that are nonvolatile do not require inhalation toxicity testing
 - It is assumed that the toxicity of the individual component compounds are weighted and summed and that there are not synergistic effects
 - The toxicity testing procedures should meet the requirements put forth by the Organization for Economic Cooperation and Development (OECD) Guidelines for Testing of Chemicals. These protocols include Acute Oral Toxicity Test (TG 401), Acute Inhalation Toxicity Test (TG 403), and Acute Dermal Toxicity Test (TG 402).
2. The undiluted product shall not contain any ingredients that are carcinogens or that are known to cause reproductive toxicity.
 - Carcinogens are defined as those chemicals listed as known, probable, or possible human carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), the U.S. Environmental Protection Agency, or the Occupational Health and Safety Administration.
 - Chemicals known to cause reproductive toxicity are defined as those listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (California Code of Regulations, Title 22, Division 2, Subdivision 1, Chapter 3, Sections 1200, *et seq.*).
 - Naturally occurring elements and chlorinated organics, which may be present as a result of chlorination of the water supply, are not considered ingredients if the concentrations are below the applicable maximum contaminant levels in the National Primary Drinking Water Standards found in 40 Code of Federal Regulations (CFR) Part 141.
3. The undiluted product shall not be a skin sensitizer as tested by the OECD

- Guidelines for Testing Chemicals, Section 406. Dispensing-system concentrates shall be tested as used. Green Seal shall also accept the results of other standard test methods, such as those described in Buehler (1994) or Magnusson and Kligman (1969), as proof that the product or its ingredients are not skin sensitizers
- 4. The *undiluted* product shall not be corrosive to the skin or eyes. Dispensing system concentrates shall be tested as used.
 - The undiluted cleaning product shall not be corrosive to the skin, as tested using the Human Skin Construct systems (Liesch et al. 2000; Fentem et al. 1998).
 - The undiluted cleaning product shall also not be corrosive to the eye as tested using the bovine opacity and permeability test (BCOP) (Sina et al. 1995) after a 10-minute exposure.
 - Green Seal will also accept the results of other peer reviewed or standard in vitro or in vivo test methods demonstrating that the product mixture is not corrosive.
- 5. The undiluted product shall not be combustible.
- 6. The product as used shall not contain substances that contribute significantly to the production of photochemical smog, tropospheric ozone, or poor indoor air quality.
 - The volatile organic content of the product as used shall not exceed the following
 - 0.1% by weight for carpet cleaners
 - 1% by weight for general-purpose and bathroom cleaners
 - 3% by weight for glass cleaners
 - The volatile organic content shall be determined by California Air Resources Board Method 310.
- 7. The product as used shall not be toxic to aquatic life.
- 8. Each of the organic ingredients in the product as used shall exhibit ready biodegradability in accordance with OECD definition except for a FIFRA-registered ingredient in a bathroom cleaner and the polymer portion of a carpet cleaner. However, all other ingredients in a FIFRA-registered bathroom cleaner or carpet cleaner must comply.
 - Biodegradability shall be measured by one of the following methods: ISO 9439 carbon dioxide (CO₂) evolution test, ISO 10708 (two-phase closed-bottle test), ISO 10707 (closed bottle test), or ISO 7827 (dissolved organic carbon removal). Specifically, within a 28-day test, the ingredient shall meet one of the following criteria within 10 days of the time when biodegradation first reaches 10%:
 - Removal of dissolved organic carbon (DOC) > 70%
 - Biological oxygen demand (BOD) > 60%
 - % of BOD of theoretical oxygen demand (ThOD) > 60%
 - % CO₂ evolution of theoretical > 60%
 - For organic ingredients that do not exhibit ready biodegradability in these tests, the manufacturer may demonstrate biodegradability in sewage treatment plants using the Coupled Units Test found in OECD 303A by demonstrating dissolved organic carbon (DOC) removal > 90%.

- Testing is not required for any ingredient for which sufficient information exists concerning its biodegradability, either in peer-reviewed literature or databases or proving that the ingredient was tested in accordance with standard test procedures.
9. The product as used shall not contain more than 0.5% by weight of total phosphorus.
 10. The primary packaging shall be recyclable. Alternatively, manufacturers may provide for returning and refilling of their packages.
 11. The product must be a concentrate, except for FIFRA-registered bathroom cleaners and absorbent compound carpet cleaners.
 12. Manufacturers shall identify any fragrances on their MSDS's. Any ingredient added as a fragrance must follow the Code of Practice of the International Fragrance Association.
 13. Prohibited ingredients include:
 - Alkylphenol ethoxylates
 - Dibutyl phthalates
 - Heavy metal including arsenic, lead, cadmium, cobalt, chromium, mercury, nickel or selenium.
 - Ozone-depleting compounds
 - Optical brighteners

14. Training

The product manufacturer, its distributor, or a third party shall offer training or training materials in the proper use of the product. These shall include step-by-step instructions for the proper dilution, use, disposal, and the use of equipment. Manufacturers shall have product labeling systems to assist non-English-speaking or illiterate personnel.

15. Animal Testing

Green Seal wants to discourage animal testing and will accept the results of past peer-reviewed or standard tests demonstrating compliance with a criterion. A mixture need not be tested if existing information demonstrates that each of the ingredients complies with a criterion. Additionally, Green Seal may accept non-animal (in-vitro) test results, providing that the test methods are referenced in peer-reviewed literature and the manufacturer provides the reasons for selecting the particular test method.

16. Labeling Requirements

The manufacturer's label shall state clearly and prominently that dilution with water from the cold tap is recommended and shall state the recommended level of dilution. Carpet cleaner labels shall specify the use of cold water for products that do not suffer significant performance degradation in cold water. The manufacturer shall also include detailed instructions for proper use and disposal and for the use of personal protective equipment. Whenever the Green Seal certification mark appears on a package, the package shall contain a description of the basis for certification. The description shall be in a location, style, and

typeface that are easily readable. Unless otherwise approved in writing by Green Seal, the description shall read as follows:

“This product meets Green Seal’s environmental standard for industrial and institutional cleaners based on its reduced human and aquatic toxicity and reduced smog production potential.” For FIFRA-registered bathroom cleaners, replace “toxicity” with the word “impacts”.

APPENDIX #5

HAND CLEANERS / HAND SOAPS (GS-41 / CCD-104)

To be approved for the OGS green hand soaps product list, hand cleaners must demonstrate environmental leadership throughout their life-cycle and meet requirements for:

- performance;
- limited toxicity for aquatic and other organisms;
- biodegradability;
- limits on ingredients that are considered likely to contribute to specific environmental and health impacts (e.g., indoor air quality, ground-level ozone-formation); and
- limited waste and resource use.

Products must be certified under the Green Seal and the Environmental Choice Program or demonstrated to meet the following requirements:

Product Specific Requirements

To be approved for the OGS green cleaning product list, the hand cleaner / hand soap product must:

- (a) using a fixed, repeatable procedure, demonstrate efficacy against a nationally recognized conventional product showing equivalent or better performance. The testing protocol should include, at a minimum: cleaning ability, lathering/rinsing, and skin condition after use. A standard soil shall be used and conclusions should be derived from at least six separate samples. All results, a summary of conclusions and a description of how any panelists are chosen shall be submitted;
- (b) not be a skin sensitizer as tested by OECD Guidelines for Testing Chemicals, Section 406, Buehler (1994), or Magnusson and Kligman (1969) or other peer-reviewed or standard test methods. The product shall not be considered a sensitizer under the following scenarios:
 - if test data shows that the whole-product is not a skin sensitizer,
 - if test data shows that each ingredient present at or above a concentration of 0.1% is not a skin sensitizer, or
 - if test data shows that any known skin sensitizers are non-sensitizing when present at 0.1% or greater in the product;
- (c) not be a skin irritant as tested by OECD Guidelines for Testing Chemicals, Section 404 or other peer-reviewed or standard test methods. The product shall not be considered a skin irritant under the following scenarios:
 - if test data shows that the whole-product is not a skin irritant,
 - if test data shows that each ingredient present at or above a concentration of 5% is not a skin irritant, or
 - if test data shows that any known skin irritants are non irritating when present at 5% or greater in the product;
- (d) be accompanied by detailed instructions for proper use to maximize product performance and minimize waste;

- (e) not be packaged in bag in box packaging;
- (f) be packaged in recyclable packaging. An exception shall be made for lightweight flexible packaging (e.g., pouches or bags) that represents at least 20% reduction in material use when compared with rigid packaging;
- (g) as demonstrated by the due diligence of the manufacturer, efforts have been made to ensure packaging with post-consumer recycled content;
- (h) make no antibacterial, disinfecting, antiseptic or sanitizing product claims;
- (i) not be formulated or manufactured with phosphates;
- (j) not be formulated or manufactured with NTA;
- (k) not be formulated or manufactured with EDTA;
- (l) not be formulated or manufactured with APEOs;
- (m) not be formulated or manufactured with halogenated organic solvents;
- (n) not be formulated or manufactured with butoxy-ethanol;
- (o) declare any fragrances on the product label and on material safety data sheets;
- (p) any fragrances used shall have been produced or handled following the code of practice of the International Fragrance Association;
- (q) if formulated or manufactured with dyes, be formulated with only food grade dyes;
- (r) not contain volatile organic compounds in excess of the limits expressed in the table below as measured by EPA Method 24-24A, 40 C.F.R., Part 60, Appendix A (1991), or Method 18,48 Federal Register 48, no. 202, October 18, 1983, or Method 1400 NIOSH Manual of Analytical Methods, Volume 1, February 1984, or Environmental Protection Agency Method 8240 GC/MS Method for Volatile Organics, September 1986, or California Air Resources Board Method 310; or as demonstrated through calculation from records of the amounts of constituents used to make the product.

Institutional Hand Cleaners	Industrial Heavy Duty Hand Cleaners
1%	8%

- (s) not be formulated or manufactured with any chemicals that are included in the International Agency for Research on Cancer (IARC) lists for proven (Group 1), probable (Group 2A), or possible (Group 2B) carcinogens;
- (t) be readily biodegradable as determined by whole formulation testing In lieu of such data, evidence on the ready biodegradability of each ingredient will be accepted if consistent tests have been applied for each ingredient; and
- (u) based on standard use of the product, not be toxic to aquatic life defined as IC50 > 1000 mg/L as measured by whole formulation short-term sensitive toxicity test performed on the bacteria *Photobacterium phosphoreum*. Aquatic toxicity shall be measured by one of the following test methods: Biological Test Method: Toxicity Test Using Luminescent Bacteria (*Photobacterium phosphoreum*), Report EPS 1/RM/24, November 1992, Environment Canada, ASTM D5660-96 or ISO 11348.

APPENDIX #6

VACUUM CLEANERS

For testing purposes, a designated vacuum cleaner unit type is obtained at random from a distributor or retailer. The vacuum is submitted to an independent laboratory and tested in accordance with the following protocols.

Soil Removal – The soil removal test protocol requires that the vacuum cleaner must remove in 4 passes a satisfactory quantity of soil from standard test carpets.

The test protocol is “Standard Laboratory Test Practice For Evaluation of Carpet Solid Particulate Removal Effectiveness of Residential/Commercial and Central Vacuum Cleaners” and is available at www.carpet-rug.com/technical_bulletins/0311_vacuum_soil_removal.pdf.

Dust Containment – This test evaluates the total amount of dust particles released into the surrounding air by the action of the brush rolls, filtration bag, other filters, and any air leaks from the overall vacuum cleaner system. This protocol requires that a vacuum cleaner will release into the surrounding environment no more than 100 micrograms of dust particles per cubic meter of air, well below levels stated in the National Ambient Air Quality Standards.

The test protocol is “Standard Laboratory Practice For Quantifying Respirable Particulate Emissions Generated by Residential/Commercial Vacuums and Central Vacuum Systems” and is available at www.carpet-rug.com/technical_bulletins/0311_vacuum_emissions_test.pdf

Appearance Retention – The test protocol for appearance retention requires that the vacuum cleaner should affect the surface appearance of the carpet no more than a one step change, based on one year of normal vacuum use.

The test protocol is “Standard Laboratory Test Practice For Measurement Of Surface Appearance Change Of Textile Floor Covering As A Result Of The Vacuuming Process” and is available at www.carpet-rug.com/technical_bulletins/0311_vacuum_appearance_change.pdf

Appendix #7

ACRONYMS

CDC	Centers for Disease Control and Prevention
CRI	The Carpet and Rug Institute
DEC	New York State Department of Environmental Conservation
DOH	New York State Department of Health
DOL	New York State Department of Labor
EPA	United States Environmental Protection Agency
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
HEPA	High Efficiency Particulate Air Filters
ISSA	“Used to Stand for International Sanitary Supply Association”, but they have expanded the organization and therefore this doesn’t encompass everything their organization does now, so the acronym is just that, an acronym.
MSDS	Material Safety Data Sheets
NSC	National Safety Council
OECD	Organization for Economic Co-operation and Development
OGS	New York State Office of General Services
OSHA	Occupational Safety and Health Administration (U.S. Department of Labor)
PESHA	Public Employees Safety and Health Act (NY Department of Labor)
SED	New York State Education Department
VOC	Volatile organic compounds

DEFINITIONS

Anti-microbial: An agent that kills microorganisms such as viruses, bacteria, mold, etc.

EPA Link for Glossary and Acronyms: <http://www.epa.gov/OCEPATERMS/>

Environmentally Sensitive Cleaning: The term is synonymous with “green cleaning”. Environmentally sensitive cleaning products are cleaning products having properties that minimize potential impacts to human health and the environment without sacrificing product effectiveness.

Green Cleaning: The term green cleaning is synonymous with environmentally preferred or environmentally sensitive cleaning.

These terms are often used interchangeably to describe cleaning and maintenance products having properties that minimize potential impacts to human health and the environment without sacrificing product effectiveness

Green Seal: Green Seal is an independent, non-profit organization that strives to achieve a healthier and cleaner environment by identifying and promoting products and services that cause less toxic pollution and waste, conserve resources and habitats, and minimize global warming and ozone depletion. Green Seal has no financial interest in the products that it certifies or recommends nor in any manufacturer or company. Green Seal's evaluations are based on state-of-the-art science and information using internationally recognized methods and procedures. Thus, Green Seal provides credible, objective, and unbiased information whose only purpose is to direct the purchaser to environmentally responsible products and services.

National Safety Council: The National Safety Council is a nonprofit, nongovernmental, international public service organization dedicated to protecting life and promoting health. The NSC is a membership organization, founded in 1913 and chartered by the U.S. Congress in 1953. Members include more than 48,000 businesses, labor organizations, schools, public agencies, private groups and individuals.

From NSC: (Link to Website “Environmental Health Center” Glossary:
<http://www.nsc.org/ehc/glossary.htm>)