

University of Dayton

Green Cleaning Standards

Developed by: University of Dayton Facilities Management
and Office of Sustainability

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TABLE OF CONTENTS

OBJECTIVE	3
PROGRAM MAINTENANCE AND IMPLEMENTATION	3
ADMINISTRATIVE & MANAGEMENT REQUIREMENTS	4
TRAINING	4
STAFFING MODEL	5
INSPECTIONS	5
APPA LEVELS OF CLEANING	5
FEEDBACK PLAN	7
SAFE HANDLING AND STORAGE	7
HAND HYGIENE	8
STANDARD OPERATING PROCEDURES	8
GENERAL CLEANING	8
DUST MOPPING	8
VACUUMING	8
ENTRYWAY MAINTENANCE	9
FLOOR CARE	9
RESILIENT TILE FLOORS	9
CARPET CARE	9
STANDARDS	9
PRODUCT-SPECIFIC PERFORMANCE REQUIREMENTS	9
SUSTAINABLE PRODUCT STANDARDS	10
POWERED EQUIPMENT STANDARDS	10
CHEMICAL LIST	11
EQUIPMENT LIST	11
PAPER PRODUCTS	12
LINERS	12
MICROFIBER CLOTHS AND WIPES	12
INNOVATION	12

Objective

The University of Dayton is committed to maintaining a high standard of cleanliness in our facilities as well as promoting indoor air quality and sustainability by implementing a thorough green cleaning program. We accomplish this level of commitment by incorporating sustainably certified chemicals and equipment, and utilizing proper custodial training and procedures. We are determined to provide healthy high performance cleaning and a more productive indoor environment with fewer burdens to our natural resources.

The purpose of this document is to present the framework for University of Dayton green cleaning standards and practices. The standards outlined here are intended to reduce the exposure of faculty, staff, students, and visitors to chemical, biological, and particulate matter that may be harmful to human health, and the built and natural environments.

Our overall cleaning standards are designed to fulfill LEED criteria. Other sources for our standards are Green Seal (GS) and the Carpet and Rug Institute (CRI). The green chemicals and tools selected under this standard are for routine cleaning. Where more aggressive cleaning of a non-routine nature is required, chemicals that do not meet this standard may occasionally be used. Examples of chemicals in this latter category are: floor finishes containing metal, strippers containing ammonia, red stain removers, metal polish, and ceramic tile cleaners. This approach complies with Green Seal GS37 and LEED 2009 EBOM IEQ Credit 3.3.

All of the standards and guidelines set forth in the Green Cleaning Policy will be upheld by all management staff and custodial staff. This policy takes effect upon occupancy of the facility and will continue indefinitely.

Program Maintenance and Implementation

University of Dayton Green Cleaning Standards is a written document establishing how green cleaning standards are to be used, managed, and evaluated. The Department of Facilities Management will maintain the Standards. The department will also review and update the Standards as necessary. The Contracted Services Manager and the Environmental Sustainability Manager will be responsible for initiation, communication and compliance verification. The requirements identified here are for LEED certified buildings or buildings pursuing LEED certification, as well as pertinent to all University buildings.

Administrative and Management Requirements

Green Cleaning Training

A training program has been created for cleaning supervisors and staff, who are responsible for implementing green cleaning procedures on a daily basis. The training program is to ensure staff understands the environmental and health issues associated with cleaning products and equipment, as well as their specific responsibilities for application and adherence of the policy. The curriculum covers the hazards, use, maintenance, and proper disposal of cleaning chemicals, and dispensing equipment and packaging. This program also includes strategies for promoting and improving hand hygiene, including both hand washing and the use of alcohol-based waterless hand sanitizers. The training is conducted annually. All custodians and managers will be trained. The cleaning contractor is responsible for updating the training program, and program delivery and compliance. Documentation of training is kept by the cleaning contractor.

Basic principles of green cleaning procedures will include, but will not be limited to, the following items. Training on green cleaning procedures, equipment, and products will take place before the first day of working or on the first day of employment.

- Entryways: trapping and removing dirt and pollutants before they enter the building. Frequent cleaning of entrances and floor mats.
- Indoor Air Quality: procedures for minimizing particles of dust and chemicals in the air. Application of chemicals to the cloth rather than spraying the surface to be cleaned.
- Proper use of the chemical management systems for accurate dilutions to maximize cleaning efficiency and minimize waste.
- HEPA filter bags: empty the equipment at the end of shifts or when they are half full.
- Proper vacuuming, extraction, rinsing and drying of carpet.
- Focus on cleaning touch points such as door knobs, handles, bright work, fixtures and any other common areas in the building where occupants come in contact.
- Proper application of disinfectant in restrooms by following the proper dwell time for chemical to work on the surface. Disinfect or remove any spot while using less product.
- Color-coded tools to ensure that pollutants do not get carried from one area to another.
- Preventing cross-contamination by using the proper micro-fiber cloth codes:
 - Yellow micro-fiber cloth for dusting
 - Green/white micro-fiber cloth for general purposes
 - Blue micro-fiber cloth for glass surfaces
 - Red/orange micro-fiber cloth for restrooms
- Preventing cross-contamination by using the proper mop pad codes:
 - Yellow micro-fiber pads for finish remover
 - Green micro-fiber pads will be used dry
 - Blue micro-fiber pads will be used wet
 - White micro-fiber pads for finish applicator

Staffing Models

A staffing model for each building along with detailed cleaning schedules (including entryways) and tasks will be maintained.

Inspections

A plan for conducting routine inspections to evaluate the effectiveness of the cleaning program, using the Association of Physical Plant Administrators (APPA) standards as a guide, is in place. The target standard is APPA level 2 (see description below). Managers and/or supervisors will conduct routine inspections and maintain records of inspection results and the corrective actions taken. A corrective plan is in place for any areas that fall below the target level of cleanliness. The plan includes the following:

Step One

Review the performance of the custodian to insure that procedures are being followed as specified. This is accomplished by observing the custodian as each task is performed. The custodian is retrained in the correct procedures.

Step Two

If procedures are being followed correctly, a review of the process is required. This will include a look at the appropriateness of the cleaning tasks and tools, cleaning frequency and any changes in room usage. For example, if the usage of a room has changed from a private office to a staff break room, adjustments in the cleaning tasks and frequencies may be required.

Step Three

New cleaning schedules will be generated that reflect the new cleaning routines. The custodian will be retrained in the new procedures. The area will be inspected again within six months to assure quality levels are maintained.

APPA Levels of Cleaning

Level 1 - Orderly

- Floors and base moldings shine and/or are bright and clean; colors are fresh. There is no buildup in corners or along walls.
- All vertical and horizontal surfaces have a freshly cleaned or polished appearance and have no accumulation of dust, dirt, marks, streaks, smudges or fingerprints.

- Washroom and shower tile and fixtures gleam and are odor free. Supplies are adequate.
- Trash containers and pencil sharpeners are empty, clean and odor-free.

Level 2 -Ordinary

- Floors and base moldings shine and/or are bright and clean. There is no buildup in corners or along walls, but there can be up to two days' worth of dirt, dust, stains or streaks.
- All vertical and horizontal surfaces are clean, but marks, dust, smudges and fingerprints are noticeable with close observation.
- Washroom and shower tile and fixtures gleam and are odor free. Supplies are adequate.
- Trash containers and pencil sharpeners are empty, clean and odor-free.

Level 3 - Casual

- Floors are swept clean, but upon observation dust, dirt and stains, as well as a buildup of dirt, dust and/or floor finish in corners and along walls, can be seen.
- There are dull spots and/or matted carpet in walking lanes and streaks and splashes on base molding.
- All vertical and horizontal surfaces have obvious dust, dirt, marks, smudges and fingerprints.
- Lamps all work and all fixtures are clean.
- Trash containers and pencil sharpeners are empty, clean and odor-free.

Level 4 - Moderate

- Floors are swept clean, but are dull. Colors are dingy and there is an obvious buildup of dust, dirt and/or floor finish in corners and along walls. Moldings are dull and show streaks and splashes.
- All vertical and horizontal surfaces have conspicuous dust, dirt, smudges, fingerprints and marks that will be difficult to remove.
- Less than 5 percent of lamps are burned out and fixtures are dingy.
- Trash containers and pencil sharpeners have old trash and shavings. They are stained and marked. Trash cans smell sour.

Level 5 - Unkempt Neglect

- Floors and carpets are dirty and have visible wear and/or pitting. Colors are faded and dingy and there is a conspicuous buildup of dirt, dust and/or floor finish in corners and along walls. Base moldings are dirty, stained and streaked. Gum, stains, dirt, dust balls and trash are broadcast.
- All vertical and horizontal surfaces have major accumulations of dust, dirt, smudges and fingerprints, as well as damage. It is evident that no maintenance or cleaning is done on these surfaces.
- More than 5 percent of lamps are burned out and fixtures are dirty with dust balls and flies.
- Trash containers and pencil sharpeners overflow. They are stained and marked. Trash containers smell sour.

Feedback Plan

The university encourages building management, occupants and cleaning staff to develop open lines of communication in order to ensure the success of the green cleaning program. Staff, faculty and students can request services using the on-line Facilities work order system. Customer service surveys are conducted periodically to gauge the effectiveness of the program. In addition, comments and concerns can be directed to the Contracted Services Manager at any time. Communicating with building occupants is vital in reaching the goal of a healthy indoor environment. Documentation of all communication with building occupants will be maintained by the Contracted Services Manager.

Safe Handling and Storage

Custodians receive training and information on the Hazard Communication Program. The extent of the information will be dependent on their work environment and chemicals that they may encounter. The hazard communication training will be provided by cleaning contractor management, or the manufacturing representative. Documentation is kept for the chemical type, volume and concentration used in each cleaning process.

Custodians are required to put on the necessary personal protective equipment (PPE) whenever using cleaning chemicals. Custodians are trained in the safe handling of chemicals, including a review of the Material Safety Data Sheets (MSDS) for each chemical. The training includes instructions to not mix different chemicals, and first-aid actions to take in event of accidental chemical contact with skin or eyes.

Custodians are instructed to report accidents and spills immediately. All accidents are documented and investigated. Custodians are also required to inform their supervisor of any adverse reactions to using chemicals.

Chemicals are stored in dedicated storage rooms and custodial closets away from heat, sunlight and foodstuffs. All containers and spray bottles are clearly labeled. The transfer or storage of cleaning chemicals in unmarked containers, food containers or drink containers is prohibited.

Training and education provided to employees and others will be documented with detailed records maintained by the location and copy of all training records on file in the location's office.

Hand Hygiene

Focus on preventative measures. The janitorial staff should wash their hands as many times as is necessary, and also keep equipment clean and well maintained. Building occupants are encouraged to maintain hand hygiene through hand washing and the availability of alcohol-based waterless hand sanitizers throughout our facilities.

Standard Operating Procedures

General Cleaning

General Cleaning of all surfaces are performed a minimum of once a week. Restrooms and other public areas are cleaned daily.

1. Microfiber, lint-free dusting cloths are preferred instead of cotton cloths.
2. Always use a folded cloth. Spray cloth with cleaner. Be sure to refold when full of soil. Refolding provides more cleaning surface area and maximizes effective use of the cloth.
3. Use designated color cloths for different spaces, for example, for restrooms.
4. Soiled cloths are to be placed in a container to be laundered.

Dust Mopping

The dust mopping of floors and stairwells is performed a minimum of once a week.

1. A micro-fiber flat mop is preferred over a dry or chemically treated cotton mop.

Vacuuming

Vacuuming of floors is performed a minimum of once a week.

1. CRI's Green Label Program and HEPA filters are required for vacuums.
2. Vacuum bags should be checked periodically and changed out when they become half-full.

Entryway Maintenance

Entryway Maintenance is performed a minimum of once a week.

1. Sweep or vacuum entry and matting (daily).
2. Roll up and remove matting.
3. Place wet floor signs as the situation dictates.
4. Damp mop entryway. This reduces the potential for moisture to lead to bacterial and fungal growth when floor mats get wet.
5. Replace mats and remove wet floor signs when area is dry.

Floor Care

All floors are swept, dust mopped, wet mopped or auto-scrubbed a minimum of once weekly.

Resilient Tile Floors

When wear paths begin to develop in the finish on resilient tile floors, the floor is “top scrubbed” removing a layer of finish, dirt and debris. The floor is then recoated using an uncertified (zinc based) floor finish. All resilient tile floors are maintained with five coats of floor finish. Top scrubbing is a green preferred procedure that avoids the use of toxic strippers.

When floors cannot be restored using the top scrubbing method, a complete stripping of all wax finish is performed using a non-certified (ammonia) based finish remover. A minimum of five coats of finish is then applied according to manufacturer specifications and application timelines.

Carpet Care

Carpets are deep cleaned once a year using sustainable powered carpet cleaning equipment certified by the Carpet & Rug Institute (CRI). Our machines use less water, fewer chemicals and have advanced ergonomic features compared to non-certified equipment. Interim carpet cleaning is scheduled to address the needs of high traffic areas. Carpets are pre-sprayed before cleaning.

STANDARDS

Product -Specific Performance Requirements

- Each product shall clean common soils and surfaces in its category effectively, at the most dilute/least concentrated manufacturer-recommended dilution level for routine cleaning, as measured by the following applicable standard test methods. Products shall be diluted, as required, just prior to testing using water from the cold tap at no more than 50F. Carpet cleaners may be diluted with warm or hot water where required by the test method or performance considerations.

- **General-Purpose Cleaners:** The product shall remove at least 80% of the particulate soil.
- **Restroom Cleaners:** The product shall remove at least 75% of the soil in ASTM D5343-06 as measured by the method. If the product is used for toilet bowl or urinal cleaning, then it must also demonstrate efficacy for water hardness removal.
- **Carpet Cleaners:** The product shall have a pH between 3 and 10 and be tested following the requirements with an appropriate method as outlined in, alternative performance requirements, for cleaning efficiency and resoiling resistance. Alternatively, products that have WoolSafe certification or a Carpet and Rug Institute Cleaning Solutions Seal of approval, or equivalent, will be accepted.
- **Glass Cleaners:** The product shall achieve at least a rating of three in each of the following Consumer Specialty Products Association (CSPA) DCC 09 categories: soil removal, smearing, and streaking.

Sustainable Product Standards

Our cleaning chemicals meet one or more of the following standards listed below. Selected chemicals use dilution systems to minimize waste.

- General-purpose cleaners, bathroom, glass and carpet cleaners comply with the Green Seal GS-37 standard.
- Floor care products comply with the Green Seal GS-40 standard.
- Paper products and liners comply with the Green Seal GS-01 (toilet tissue paper) standard and GS -09 (paper towels & napkins) standard.
- Various disinfectants, metal polishers and degreasers comply with the Green Seal GS-40 standard and the Canadian Environmental Choice CCD-112, 113, 115, 147 standards.
- Hand soaps comply with the Green Seal GS-41 standard.

Powered Equipment Standards

- Use only powered cleaning equipment that helps to reduce building contaminants and minimize any negative impact to the building and natural environment. Propane- powered equipment shall not be used.
- Use only vacuum cleaners that have high filtration systems and/or HEPA systems. These systems have a positive impact on indoor air quality.
- Use only carpet extraction equipment, for restorative deep cleaning, which is certified by the Carpet and Rug Institute's (CRI) Seal of Approval Testing Program for deep-cleaning extractors.
- Use only powered floor maintenance equipment, including electric and battery powered floor buffers and burnishers, which are equipped with vacuums, guards and/or other devices for capturing fine particulates and which operate with a sound level of less than 70dBA.
- Use automated scrubbing machines equipped with variable-speed feed pumps and on-board chemical metering devices to optimize the use of cleaning fluids.
- Use battery-powered equipment equipped with environmentally preferable gel batteries.
- Use powered equipment ergonomically designed to minimize vibration, noise, and user fatigue.

- Use equipment designed with safeguards, such as rollers or rubber bumpers, to reduce potential damage to building surfaces.

Chemical List

1. Clean by Peroxy (003504) by Spartan Chemical Company
2. TriBase Multi-Purpose Cleaner (38004) by Spartan Chemical Company
3. BioRenewables Glass Cleaner (383504) by Spartan Chemical Company
4. Green Solutions Industrial Cleaner (350604) by Spartan Chemical Company
5. Green Solutions Glass Cleaner (350704) by Spartan Chemical Company
6. Green Solutions Floor Seal & Finish (350404) by Spartan Chemical Company
7. Green Solutions Floor Finish Remover (350504) by Spartan Chemical Company
8. Green Solutions All Purpose Cleaner (350104) by Spartan Chemical Company
9. Green Solutions Carpet Cleaner (350904) by Spartan Chemical Company
10. Grout Safe Cleaner- Degreaser by Envirox
11. H2 Orange2 Concentrate 117 by Envirox
12. Pearl Floor Finish by Classic Solutions, INC
13. RYBY Stripper by Classic Solutions, INC

Equipment List

1. Spectrum 12H Vacuum by Advance
2. Spectrum 12P & 15P Vacuum by Advance
3. Spectrum 15D & 18D Vacuum by Advance
4. AquaClean 12ST Extractor by Advance
5. AquaClean 16ST I 16XP I 18FLX Extractor by Advance
6. Aqua Pro XP Extractor by Advance
7. Advenger 28" riding scrubber by Advance
8. Adfinity 20" walk-behind scrubber by Advance

9. Adfinity 24" walk-behind scrubber by Advance
10. Windsor 20" 1-Scrubber
11. Windsor lightning burnisher with dust control

Paper Products

UD commits to using Green Seal certified towels and tissue that are 100% recycled. The use of post-consumer paper waste and recovered paper materials can reduce the impact of these materials in landfills and cut down on the use of virgin materials and save trees.

Liners

The university continues to investigate opportunities for reducing the size and number of liners being used. Recycled content liners are preferred. Transparent liners are used to identify collection containers for recyclables.

Microfiber Cloths and Wipes

Micro-fiber dusting cloths and flat mops will be implemented in the facility because of their ability to remove soils and pick up dust and bacteria without the need for chemical compounds. By using these products, cleaning will be made simpler, faster and more effective.

Innovation

New environmentally friendly products are evaluated as they are introduced to the market. We understand that the cleaning industry frequently makes advances in technology, and we plan to incorporate these advances as they become available. New products must meet the respective standards listed as they apply to each product category. In the event that a required product does not meet these standards or a standard has not yet been identified, we will look for the product that most closely complies with the standards outlined above and will continue to use the product as needed until an environmentally-preferable product is available.