Cornell University Building Care-Green Cleaning Program

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By methodically reviewing cleaning chemicals, paper products, equipment and custodial protocol, we are able to utilize highly effective products in an efficient manner, to help achieve our mission to the campus community.

Key Objectives:

- We strive to maintain a clean and safe environment for the Cornell Community in which to work and study
- We utilize cleaning chemicals, equipment and protocol to protect the health of the Cornell community without harming the environment
- We improve air quality by reducing the amount of contaminants in the air through our custodial maintenance processes
- We preserve the infrastructure by extending the life of carpeting, hard floor surfaces and other materials through a variety of cleaning methods

SCOPE The scope of this document covers all normal cleaning activities undertaken in the course of managing a campus facility. The scope includes the following:

- **Cleaning and Maintenance Chemical Selection and Approval Process**
- **Entryway Systems Maintenance**
- **Isolated Chemical Storage and Mixing Areas**
- **Sustainable Housekeeping Systems**
- **Use of Concentrates from Dispensing Equipment**
- **Carpet Maintenance**
- **Disposable Housekeeping Products**

REQUIREMENTS

1. Building Care is responsible for careful and considerate management of its cleaning and janitorial maintenance services to reduce overall risk and provide a safe and effective work environment, while minimizing environmental impact. The attached guidelines are provided to produce this result in the area of cleaning and janitorial chemical use.

2. All operations must meet Federal, State, and local regulatory requirements at a minimum.

3. The principals of green cleaning shall, as they apply in each instance, be extended to other facility management where possible such as construction clean up services.

4. Review of the program may include chemical use listing, safety/incident review, and performance summary.

5. Standards, product registrations, and cleaning practices are constantly evolving. Building Care will actively keep abreast of developments and strive for continual improvement in performance and environmental achievement. See Reference section for sources of information.

6. Green cleaning policy is defined by the Cleaning and Janitorial Maintenance Plan included in this program.

CONTACTS &
REFERENCES

Green Seal's Product Certification standard and list :
Industrial & Institutional Cleaners (GS-37)
Cleaning/Degreasing Agents (GS-34)
Green Facilities Operation and Maintenance Criteria (GS-39)
Industrial & Institutional Floor-Care Products (GS-40)
Tissue Paper (GS-01)
Paper Towels and Paper Napkins (GS-09)
http://www.greenseal.org/

Cleaning and Janitorial Maintenance Plan

The purpose and intent of the Cleaning and Janitorial Maintenance Plan is to minimize exposure of building occupants and maintenance personnel to potentially hazardous chemical, biological and particle contaminants which may adversely impact indoor air quality, health, building finishes and systems, and to minimize the impact of the building maintenance program on the environment. Additionally, it is intended to reduce the risk of both occupants and the contractor from injury and/ or health problems.

Cleaning methods set forth in this plan emphasize the removal of indoor pollutants and maintaining a safe and healthy environment while minimizing the amount of product used and the amount of waste that is created. Products include general purpose cleaners, bathroom cleaners, glass cleaners, carpet cleaners, disinfectants, floor care products, hand soaps, paper supplies for cleaning and paper supplies for bathrooms. The product recommendations included in this plan are meant to provide current examples of acceptable cleaning products; however, substitute products may be used, provided they are approved via the established protocol.

Products that do not contain environmental contaminants help reduce the ecological impact of cleaning products that are flushed into the water supply/filtration system. Green cleaning is one aspect in building maintenance that can reduce VOC as well as bacteria and fungi. The promotion of a high quality indoor environment through the Cleaning and Janitorial Plan will have positive beneficial effects on occupant/employee health and productivity, life-cycle building maintenance costs, and the overall environment.

Cleaning and Maintenance Chemical Selection and Approval Process

- Low environmental impact cleaning products shall be used in accordance with the Green Seal GS-37 and GS-34 standard. Products that do not apply to these standards shall be in accordance with nationally recognized green certification programs in the location of use.

- A log shall be kept that details all housekeeping chemicals used or stored on the campus (stored products include those that are no longer used, but still in the building). Attachments to the log shall include manufacturer's Material Safety Data Sheets and Technical Bulletins. Where Green Seal is a nationally recognized standard, the log shall identify:

- An MSDS and/or label from the manufacturer specifying that the product meets the VOC content level for the appropriate product category as found in the California Code of Regulations.

- A copy of the Green Seal Certification, or

- If the product has not been certified by Green Seal, the manufacturer will provide test data documenting that the product meets each of the environmental health & safety criteria set forth in Green Seal Standard GS-37 and GS-34.

Listing of Approved chemicals: Green Standard

Stride Neutral Cleaner	*GS-37*
Glance NA Glass Cleaner	*GS-37*
Alpha HP Multi Surface	*GS-37*
Aquaria Floor Finish	*GS-40*
Freedom SC Floor Stripper	*GS-40*

Excepted Chemical Products	Reason for Exception
Virex 256 Disinfectant	*Meets California Code Standard for VOC's* *Used for prevention of contagious disease*

When available, chemical concentrates dispensed from closed dilution systems will be used as alternatives to open dilution systems or non-concentrated products.

Resilient tile and hard flooring coating systems, including floor finishes and restoration products shall be used in accordance with Green Seal GS-40 standard and shall be highly durable in order to maintain an acceptable level of protection and gloss for a minimum of one (1) year before stripping/removal and recoating is necessary.

All cleaning products utilized by Building Care will be reviewed by Cornell EHS for safety. Once the products are approved for campus use they will be tested centrally within Building Care by management and trainers before their introduction to the greater campus buildings. Training and monitoring of product use and dilution rates will be provided for all employees before usage.

Entryway Systems Maintenance

Properly installed and maintained entryway systems will greatly reduce the amount of foreign matter tracked into the building, reduce the risk of slips/falls inside the building, and protect the building flooring systems from excessive wear and tear, thereby reducing interior maintenance requirements.

Permanently installed entryway grating used in main entrances of the building to prevent dirt, dust, pollen and other particles from being tracked into the building will be regularly cleaned and maintained.

Mat systems and application shall be specified and applied as seasonally appropriate. For example, in the winter when grit, salt, ice and water are prevalent, a dual (external/internal) mat system may be required to adequately protect the building, and to supplement the permanent system installed at the main entryway.

Building Care will be responsible for the daily and periodic deep cleaning of the entryway systems and mats. A log shall be maintained to document that the systems have been effectively maintained. A quarterly report shall be compiled from these logs showing the effective use, cleaning and maintenance of the entryway systems and mats. These logs and reports shall be reviewed at least annually by the Facility Manager.

Isolated Chemical Storage and Mixing Areas

Proper isolation, storage and handling of chemicals will reduce the risk of occupant exposure to potentially hazardous materials. All housekeeping chemicals will be stored in isolated areas of the building. Proper isolation includes:

- Locked doorways with access for authorized janitorial staff and property managers only.

- Proper ventilation systems to assure direct-to-outside air exhaust, no air recirculation, and negative static pressure in the storage room.

- Hot and cold water supplies and sink drains plumbed for appropriate disposal of liquid wastes.

The Facility Manager shall maintain building plan drawings indicating all areas where chemical storage and mixing occurs in the building, and shall document appropriate design and maintenance of the supporting building systems. Housekeeping specifications will dictate where chemical storage and mixing occurs in the building. Housekeeping practices shall be reviewed at least annually to assure compliance with these requirements.

Sustainable Housekeeping Systems

Housekeeping includes floor care, restroom care, and general cleaning. ‘Sustainable housekeeping’ encompasses more than the concept of minimizing exposure of personnel to potentially hazardous chemicals. Sustainable building housekeeping includes environmental performance, including product selection, installation, operation, long-term maintenance, and eventual disposal.

Environmental and safety aspects of sustainable housekeeping are defined in this plan as follows:

- Building Care shall adhere to the proper disposal methods for all housekeeping wastes, including floor care stripping wastes as per local regulatory requirements.

- Building Care personnel shall be properly trained in the use, maintenance and disposal of housekeeping chemicals, dispensing equipment, and packaging. Training for each manager and subsequent staff shall occur on a routine/scheduled basis.

- Supplier’s Material Safety Data Sheets and Technical Bulletins for all housekeeping chemicals shall be provided by suppliers. The suppliers of cleaning products shall provide full disclosure of ingredients on Material Safety Data Sheets. Chemical suppliers shall provide training materials on the hazards and proper use of housekeeping chemicals for workers. MSDS sheets are housed centrally within the department, at employee time clocks and on the Cornell Building Care website for ease of access by everyone.

"Full Disclosure" for products which are not formulated with listed suspect carcinogens is defined as:

- Disclosure of all ingredients (both hazardous and non-hazardous) that make up 1% or more of the undiluted product and
- Use of concentration ranges for each of the disclosed ingredients.

"Full Disclosure" for products which are formulated with listed suspect carcinogens is defined as:

- Disclosure of all ingredients (both hazardous and non-hazardous) that make up 0.1% or more of the undiluted product and use of concentration ranges for each of the disclosed ingredients. Suspect carcinogens are those which are listed on authoritative lists available for MSDS preparation: IARC, NTP, and California Proposition 65 lists. Concentration range definitions are available from the Canada WHMIS regulation.

The intent of the above disclosure requirement is to have a facility disclosure policy that is responsive to the needs of health and safety personnel. If, however, the above disclosure requirement is not met on the MSDS, then disclosure can be provided by suppliers through other means that are easily accessible to health and safety personnel. MSDS and other cleaning material information is available to building occupants upon request.

A floor maintenance plan and log shall be kept which details the number of coats of floor finish being applied as the base coat and top coats, along with relevant maintenance/restoration practices and the dates of these activities. The duration between stripping and recoat cycles shall be documented.

A log shall be kept for all powered housekeeping equipment. The log should identify the date of purchase and all repair and maintenance activities. Equipment shall meet these requirements:

- Powered maintenance equipment should be equipped with vacuums, guards and/or other devices for capturing fine particulates and shall operate with a sound level of less than 70dBA.

- Propane-powered floor equipment shall have high-efficiency, low-emissions engines.

- Automated scrubbing machines shall be equipped with variable-speed feed pumps to optimize the use of cleaning fluids.

- Battery-powered equipment shall be equipped with environmentally-preferable gel batteries.

- Where appropriate, active micro fiber technology shall be used to reduce cleaning chemical consumptions and prolong life of disposable scrubbing pads.

- Powered equipment will be ergonomically designed to minimize vibration, noise and user fatigue.

- Equipment shall have rubber bumpers to reduce potential damage to building surfaces.

Use of Concentrates from Dispensing Equipment

Use of chemical concentrates has several positive environmental benefits:

• Significantly lower transportation costs between manufacturer and end-user.
• Significantly lower use of packaging materials.
• Lower real chemical use to obtain same performance.
• Potentially lower exposure of maintenance personnel to hazardous chemicals.

Chemical concentrates may present higher hazards upon exposure. The proper containment, storage and dispensing of chemical concentrates is critical in avoiding employee exposures. Exposure to hazardous chemicals is minimized by using closed dispensing systems. Concentrates sold for manual dilution in buckets or bottles can actually increase the risk of employee exposure. Chemical

concentrates dispensed from closed dilution systems shall be used preferentially to open dilution systems or non-concentrated products.

Building Care personnel shall be properly trained in the use, maintenance and disposal of housekeeping chemicals, dispensing equipment and packaging.

Carpet Maintenance

Low environmental impact janitorial equipment includes the use of durable carpet care equipment, such as upright, backpack and wide area vacuums equipped with powerheads meeting or exceeding the Carpet and Rug Institute “Green Label” and capable of capturing 96% of particulates 0.3 microns in size shall be used.

Carpet extraction equipment shall be capable of removing sufficient moisture such that carpets can dry in less than 24 hours. Carpet care equipment shall be electric or battery powered and shall have a maximum sound level less than 70dBA.

Wherever possible, carpet extraction method that reduces chemical use will be used. A log shall be kept which details the relevant maintenance/restoration practices and the dates of these activities. The duration between extraction cycles shall be documented. A log shall be maintained which lists all carpet care equipment including vacuums (e.g. upright, backpack, wide area and wet/dry) and equipment used for maintaining resilient and hard floors (e.g. buffers, burnishers, and auto-scrubbers). Documentation is kept on each piece of equipment identifying performance capabilities.

Disposable Housekeeping Products

Low environmental impact janitorial supplies will include the use of disposable paper (toilet tissue and paper towels) utilizing 100% recycled content and a minimum of 30% post-consumer recycled content, AND which are manufactured without the additional use of elemental chlorine or chlorine compounds (Processed Chlorine Free). Plastic trash can and other liners will utilize a minimum of 30% post-consumer recycled content.

Training

All Building Care employees receive an initial centralized training of at least 10 hours involving both classroom and hands on experiences germane to professional commercial cleaning. Special emphasis is given to green cleaning practices. After this initial training, the employees are immediately field trained with head custodians and managers within their newly assigned area for at least an additional 10 hours, one on one, with hours increased dependent upon employee’s progress. Within a period of one month of their initial training, a central Training Supervisor will review protocol and procedure with the new employee again. This training will include observation of the employee working within their assigned area with performance improvement feedback given as appropriate.

Comprehensive remedial training is performed both in the field and centrally. These remedial trainings emphasize safety, ergonomics and green cleaning practices. Dilution rates, vacuum cleaner maintenance and proper care of entryway matting are also emphasized. Training is performed annually in regards to carpet and hard floor maintenance. Further, all training for OSHA compliance such as Hazard Communication and Asbestos Awareness is performed pursuant to these standards.

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DUSTING, DUST MOPPING AND VACUUMING

Traditional dusting and dust mopping techniques frequently move dust and other contaminants from one area to another, such as from a bookshelf to the floor. It is important to recognize that moving the dust from one place to another wastes labor and reduces efficiencies. Dusting and dust mopping activities that do not capture soils completely stir them into the air where people can then be exposed to the particles.

DUSTING

Green Cleaning Requirements (cloth or vacuum)

1. Use only dusting tools that capture and remove the dust.
2. Micro-fiber, lint-free dusting cloths and vacuums are preferred instead of feather duster.
3. It is preferable to use vacuum cleaners that meet the Carpet & Rug Institutes (C&RI) Green Label Program and be fitted with appropriate bags and HEPA filters.
4. Always use a folded cloth and be sure to refold when full of soil. Refolding provides more cleaning surface area and maximizes use of the cloth.
5. Minimize the use of dusting chemicals and if required use water or water based dusting chemicals. See the Janitorial Selection Guide.

Dust (micro-fiber cloth)

1. Gather equipment.
2. Wear personal protective equipment per label directions.
3. Be sure to use appropriately sized attachments if using a vacuum.

4. Dust from top to bottom.
5. Be thorough and get hard to reach areas.
6. Never move personal items.

Information on the Carpet & Rug Institute's Green Label Program can be found at www.carpet-rug.com.

DUST MOPPING AND VACUUMING

Green Cleaning Requirements

1. A micro-fiber flat mop is preferred over a dry or chemically treated cotton mop.
2. If using a micro-fiber mop, choose the widest mop possible taking into consideration the area, obstructions, unevenness of the floor, etc.
3. If using a vacuum, be sure to use a wide area hard floor attachment to maximize soil removal and to minimize labor.
4. C&RI's Green Label Program and HEPA filters are preferred for vacuums.

Dust Mopping (mop or vacuum)

1. Assemble equipment and supplies.
2. Put on appropriate personal protective equipment, as stated on the product label and MSDS.
3. Using a putty knife, carefully remove any gum or other debris stuck to the floor.
4. Start from a far corner and work toward the door.
5. When using a micro-fiber flat mop, use a continuous motion, without lifting the mop from the floor.
6. Typically begin next to the wall. When turning, pivot so that the leading edge remains the same. Overlap the previously mopped path by 2 to 4 inches to ensure complete coverage.
7. When completely finished, pick up the collected debris using a counter brush and dust pan or vacuum.
8. When the micro-fiber no longer attracts soil, it will need to be laundered. Vacuum bags should be checked periodically and changed out when they become half-full.

ENTRY WAYS

Entry ways are the first line of defense in limiting contaminants from entering buildings. Therefore, special effort should be focused in these areas to keep the contaminants out of the building. Proper maintenance of entryway systems can increase the life of the flooring systems (carpet, stone, resilient tile, etc.). From an economic and safety standpoint, a proper entryway maintenance program stops dirt at the door and will reduce floor care labor used to maintain floor finishes and sealers. Appropriate walk-off entry mats reduce liability and costs associated with people slipping and falling as a result of wet, dirty floors particularly during inclement weather or from excessive amounts of dirt and grit build up.

Green Cleaning Requirements (cloth or vacuum)

1. Use high quality walk-off matting outside and inside the entry. See your local matting professional. Some considerations include:
   • Mats with non-porous backing that inhibit mold and mildew growth within the backing.
   • Fire retardant rating that exceeds DOC-FF1-70, like NFPA-253 Class I and II.
   • Electrostatic Propensity levels of less than 2.5 KV.
2. Ensure that interior matting is at least 12 to 15 feet in length; especially during inclement weather.
3. Ensure that mopping solutions are mixed accurately and changed when dirty.
4. Preference is to use micro-fiber wiping clothes and flat mops.
5. Use vacuums that meet the certification standards under the Carpet & Rug Institute's Green Label program. Check and change bags and filters as needed

(as often as necessary depending on the amount of soils).
6. When using ice-melting products it is preferable to use compounds that do not contain sodium chloride.

ENTRYWAY MAINTENANCE PROCEDURES (DAILY)

Exterior

1. Empty and clean trash cans and ash urns.
2. Clean doors, door handles, and kick-plates with appropriate cleaner.
3. Sweep exterior sidewalk and vestibule with a high quality push-broom or mechanized sweeper or vacuum.
4. Vacuum entryway matting.

Interior

5. Clean walls, doors, door-handles, push plates, and kick-plates.
6. Vacuum matting in both directions.
7. Dust mop or vacuum entryway flooring.
8. Repeat more frequently if heavy soil is present.

ENTRYWAY MAINTENANCE PROCEDURES (PERIODIC)

Exterior

1. Roll up and remove matting if possible.
2. Sweep underneath matting.
3. Clean washable entryway mats with high-pressure washer.
4. Reinstall matting once entryway is dry.

Interior

1. Roll up and remove matting.
2. Place wet floor signs and caution tape.
3. Damp mop entryway.
4. Remove wet floor signs and caution tape when the area is dry.

Note: Periodic procedures should be repeated as needed based on weather conditions and soil loads.

FLOOR STRIPPING

Green Cleaning Requirements (floor stripping)

1. Notify occupants beforehand if a strip-out is scheduled.
2. Select environmentally preferable product as outlined in the Janitorial Products Selection Guide. Mix and use products according to label directions.
3. Ventilate area and building during and after stripping.
4. Especially when stripping floors, it is preferable to conduct these activities on a weekend or some other extended time period when occupants will not be in the building. This allows maximum time for the building to be ventilated (flushed with fresh air) prior to the return of the occupants.

Floor Stripping Procedures

1. Prep the area by placing wet floor signs, caution tape and other blockades around area to be stripped.
2. Assemble equipment and supplies.

• Assemble two mop heads and handles. If not color coded, label "Strip Mop" and the other "Rinse Mop."
• Assemble two mop buckets and wringers. Label one bucket "Strip" and the other "Rinse."
• Place the appropriate stripping pad on the rotary floor machine. Fill the strip bucket with hot water unless the product label recommends cold and mix with stripper. Fill the rinse bucket with clean, cold water.

• Place all equipment in the area where the work will begin.
3. Remove free standing objects. Vacuum and remove
walk-off mats.
4. Dust mop or vacuum the area. Remove all gum and other sticky residue from
floor with putty knife.
5. Apply foaming stripper to baseboards, if necessary. Prepare to control liquid flow.
6. Apply stripper to floor. Dip "Strip" mop into "Strip" bucket. Lift
mop allowing excess to drip into bucket. Apply to floor. Apply
sufficient solution, but be sure not to over wet which may lead
to solution traveling under doors or onto carpet. Outline a
10 x 10 foot area and fill in using an overlapping pattern. Let
solution dwell for 5 to 10 minutes. Do not allow solution to
dry. Re-apply as necessary to keep floor wet.
7. Use edging tool to loosen finish close to baseboards and corners.
8. Scrub the floor with a rotary floor machine after the stripping
solution has had time to work. Scrub across the work area
retreat as necessary.
9. Check your progress. If any floor finish remains, apply more
stripper and increase dwell time. Don’t let floor dry.
10. Rinse the floor using the "Rinse" mop and bucket. Use a floor
squeegee to manage the slurry.
11. Pick up slurry with wet-vac or mop and bucket.
12. Rinse the floor again with clean cold water.
13. When the floor dries, rub your hand over it. If there is residue on your
hand, you must rinse again.
14. Once the floor is dry and free of residue and glossy areas (sign of finish or
sealer), it is ready to be coated.

Green Cleaning Requirements (floor finish / sealer application)

1. Apply finishes or sealers with a clean rayon mop head.
2. Use clean buckets with clean wheels.
3. Line bucket with fitted trash liner.
4. Use finish or sealer as recommended in the Janitorial Product Selection Guide.
5. Apply even coats.
6. Don’t force dry finish with a fan.

Finish / Sealer Procedures

1. Assemble equipment
and supplies.
2. Put on appropriate Personal Protective Equipment, as stated on the
product label and MSDS.
3. Post Wet Floor signs and blockades.
4. Prepare mop and bucket.
5. Pour enough sealer or finish into the bucket for the area.
6. Dip the mop head into the finish or sealer.
• Tamp the mop head in the wringer. Do not wring out.
• Hold above wringer and count 1-2-3. If no more drips
the mop is ready.
7. Apply the finish or sealer.
• Draw a 10x10 foot frame with finish or sealer.
• Using an overlapping figure 8 motion, fill in the frame. Flip the mop gently
1/2 way through the area.
• Apply all the way to the baseboard on the first and last coat.
8. Allow each coat to dry.
9. Apply additional finish or sealer coats until desired appearance is achieved.
• Do not apply more than 4 coats in 24 hours.
• Do not buff between coats.
• Do not buff until at least 24 hours after application of the last coat.

10. Remove and discard the liner and the leftover finish.
Thoroughly clean the mop head, bucket and wringer.
11. Remove Wet Floor signs and other blockades after the floor is completely dry.

Green Cleaning Requirements (for Buffing and Burnishing)

1. Make sure that adequate floor finish exists.
2. Select the appropriate restoration products as outlined in the Janitorial Selection Guide.
Water-based, low VOC products are preferred.
3. Apply product in a stream or coarse spray instead of a wide-angle mist to minimize the
amount that becomes airborne and inhaled or over sprayed. Do not over apply.
4. Be sure that the pad matches the rotary scrubbing machine speed and the finish type.

Buffing Procedures

1. Assemble equipment and supplies.
2. Put on appropriate Personal Protective Equipment, as stated on the product label and MSDS.
3. Post wet floor signs or other blockades.
4. Dust mop and damp mop the floor. The use of a micro-fiber flat mop is preferred.
5. Mount a red buffing pad on the rotary floor machine.
6. Apply spray buff solution in a stream or coarse spray being very careful not to use too much or over-spray.
7. If using a 175 RPM machine, make three passes using a swinging motion over the work area, using appropriate pad.
8. If using a 1000 – 1500 RPM machine make a single pass in a straight line over the area.
9. Change pads as necessary.
10. Dust mop the floor after the entire area has been buffed.
11. Clean equipment and return it to its proper place.
12. Remove wet floor signs and/or other blockades.

Spray Buffing Tips

• A "shot" of spray buff solution enhances gloss, helps remove black marks and repairs scratches. Be sure to buff before the spray buff solution has time to dry.
• Try to spray buff the surface on a regular basis, 1-3 times per week.
• Use restraint when applying solution. One "shot" is usually enough.
• Carry the spray bottle in a convenient place. Holsters or attachments that
mount onto your rotary scrubber are available.
• Take good care of your pads. Check and flip when they get soiled. Wash, rinse and hang to dry at the end of the shift.

Burnishing Procedures

1. Assemble equipment and supplies.
2. Put on appropriate Personal Protective Equipment, as stated on the product label and MSDS.
3. Post Wet Floor signs or other blockades.
4. Dust mop and damp mop / scrub the floor.
5. Mount the appropriate pad on the UHS burnisher.
6. Make one pass over the work area. If the floor isn’t glossy after one pass, THEN make a second pass.
7. Change pads as necessary.
8. Dust mop the entire area after the floor has been burnished.
9. Clean equipment and return it to its proper location.
10. Remove Wet Floor signs or other blockades.

Carpet Pre-Spray & Extraction

Carpets can act as a "sink" that allows particles, allergens and other unwanted material to filter down into the backing of the carpets. Once down deep in the carpet these unwanted materials can lead to damage of the fibers and the need to ultimately replace the carpets sooner than properly maintained carpeting. But from a health perspective, one of the biggest enemies of a healthy indoor environment is when moisture provides an opportunity for biological growth in the carpets. Thus, pre-spraying carpet and rinsing with an extractor should get deep down into the carpets and remove the unwanted contaminants.

Green Cleaning Requirements

1. Minimize the amount of cleaning chemicals used.
2. Use appropriate functioning equipment that will maximize the amount of water being extracted from the carpet to minimize moisture and potential for mold, mildew and bacterial growth.
3. Increase ventilation. Open windows if weather allows and use carpet fan to dry carpets quickly.
4. Dispose of cleaning solutions properly.

Pre-Spray & Extraction Procedures

1. Remove large debris from carpet.
• Place foil under legs of heavy furniture.
• Lift carefully. Get help with heavy items.
2. Vacuum and roll up walk-off mats.
3. Thoroughly vacuum the area to be extracted.
• Inspect for heavy soils and spots.
4. Assemble equipment and supplies.
5. Put on appropriate Personal Protective Equipment as stated on the product label and MSDS.
6. Treat spots.
7. Prepare pre-spray solution.
• Follow label directions.
• Use hot water.
8. Prepare your extraction rinse solution.
9. Post Wet Floor signs or other blockages.
10. Pre-spray the carpet.
• Work a manageable section.
• Allow the detergent to work 10-15 minutes.
11. Extract the carpet with water or extraction rinse.
• Extract in overlapping paths, pulling the machine back towards you.
• Make a second "dry" pass with the solution off.
• Collect as much moisture as possible.
12. Empty the recovery tank when full. Refill the solution tank.
13. Dry the carpet with a carpet fan.
• Place the fan out of traffic areas.
• Turn up HVAC or open doors and windows.
14. Raise the carpet nap.
• Finish the job with a vacuum cleaner or carpet rake.
15. Remove wet floor sign or other blockades after carpet is dry.
16. Clean your equipment and return it to its proper location.
17. Replace walk-off mats.
• Check backs of mats to make sure they are clean and dry.
• Never cover wet carpeting with a mat.

RESTROOMS

Large trash cans should be utilized to minimize overflow of waste and reduce the frequency for policing the area. It is often beneficial to place a trash receptacle by the door for easy

disposal of towels to prevent them from being thrown on the floor.

Green Cleaning Requirements

1. Make sure cleaning and disinfecting solutions are prepared and used according to label direction (e.g., dwell time).
2. Use cleaners as outlined in the Janitorial Product Selection Guide.
3. Frequently clean surfaces that hands touch to eliminate the spread of germs (e.g., door knobs, light switches, handles, etc).
4. Address moisture problems.
5. Keep floor dry to eliminate slip-fall injuries and prevent the build-up of bacteria, mold and mildew.
6. When waterless urinals and/or composting toilets are used, follow manufacturer's specified cleaning techniques only and NEVER pour water or cleaning chemicals into these fixtures unless specifically directed by the manufacturer.

Restroom Procedures

1. Put on Personal Protective Equipment.
2. Assemble equipment.
3. Mix / dispense cleaning solutions.
4. Knock, announce yourself, and prop open door.
5. Sweep floor.

• Pick up solid wastes.
• Use a floor scraper or putty knife to remove any items stuck to the floor.
• Start at the farthest corner and work toward the door.

When waterless urinals and/or composting toilets are used, follow manufacturer's specified cleaning techniques only and NEVER pour water or cleaning chemicals into these fixtures unless specifically directed by the manufacturer.

6. Apply product to INTERIOR of toilets and urinals.

• Start by forcing water down the trap below the water line.
• Then apply the bowl cleaner under the rim and around the interior.
• Give the bowl cleaner time to work. Check your label directions for recommended contact time.

7. Apply product to EXTERIOR of toilets and urinals.

• Spray the outside of the toilets and urinals (including the chrome, back wall area and floor immediately around the toilets and urinals) with a disinfectant cleaner.
• Leave the disinfectant on these surfaces so it has time to work. Check your label directions for recommended contact time.

8. Apply product to sinks and counter tops.

• Give product time to work.

9. Fill dispensers.

• Remove gloves before refilling dispensers.
• Refill dispensers in a consistent order to avoid misses.

10. Empty trash.

• Put safety gloves back on.
• Remove the used liner by pulling straight up – for safety don’t press down on the trash. There may be sharp objects in the trash that may cause injury if you pushed down on it.

11. Clean mirrors.

• Adjust nozzles to stream vs. wide angle spray.
• Spray glass cleaner onto mirror from high to low.
• Wipe the mirror from low to high.

12. Clean and wipe dispensers. **15S MANUAL**
13. Wipe sinks and counter tops.

• Micro-fiber is preferable.

14. Clean INTERIORS of toilets and urinals.

• After the product has had time to work, scrub the inside of the toilets and urinals with your bowl mop.
• Then rinse the bowl mop out in the clean running water of the toilet.
• Be careful to return the toilet brush to your cart without contaminating other supplies.
15. Wipe EXTERIORS of toilets and urinals.
• Never use the bowl mop, since this could cause cross-contamination.
• Wipe down all plumbing pipes with dry cloth to prevent spotting.
16. Clean frequently touched surfaces.
• Spray disinfectant cleaner on cloth and wipe light switches, push plates kick plates and door knobs.
17. Spot clean walls.
• Spot clean the stall partitions and the walls by spraying cleaner and wiping with a damp micro-fiber cloth.
18. Mop the floors.
• Make sure the Wet Floor sign is in the doorway.
• Damp mop the floor with a disinfectant, general purpose or deodorant digester cleaner.
19. Remove the Wet Floor signs only after the floor is dry.

FOOD AREAS: CAFETERIAS, BREAK ROOMS, ETC.

Action Items:

1. Clean and sanitize floors, tables, etc.
2. Separate recyclables from trash and make sure recyclable areas are kept clean (i.e. rinse soda cans) so as not to attract pests.
3. Make sure that occupants understand how to properly separate trash and recyclables and the proper disposal of each.
4. Make sure that waste containers are covered and emptied at least once daily. Particular attention should be paid to food waste, trash receptacles containing food debris, recyclables such as soda cans, and other objects that contain food residue that can attract pests. Making every effort to eliminate those things that attract pests is critical to protecting occupant health by reducing or eliminating the need for pesticides inside the building. Ask occupants to rinse out food and drink containers before placing in recyclable collection. Refrigerators used by occupants for their personal use should be emptied and cleaned periodically by the occupants. Integrated pest management (IPM) should be followed.

OSHA BLOOD-BORNE PATHOGEN STANDARD

Action Items:

1. Use safety cones or other means to make sure that occupants do not come in contact with biological spills.
2. Use proper personal protective equipment (i.e. gloves, goggles).
3. Disinfect area with appropriate solution following OSHA’s Blood borne Pathogen Standard.
4. Dispose properly in a biohazard bag.

OSHA required procedures and training on the Blood-Borne Pathogen Standard 9 is not changed in a Healthy High Performance Cleaning program as the requirements are mandated by federal law. The Blood-Borne Pathogen Standard requires, among other things, the use of bleach at a 1:10 dilution, an EPA registered tuberculocidal product, or an EPA registered product with claims against both HBV and HIV.

MEASURING / DILUTING CONCENTRATED CLEANING PRODUCTS

Action Items:

1. Use appropriate personal protective equipment when mixing concentrated cleaning products.
2. Follow manufacturer's dilution directions. Do not under- or over-dilute concentrated cleaning products.
3. Make sure that spray bottles (secondary containers) have appropriate labels.
4. Never mix different cleaning products together.

Highly concentrated cleaning products reduce environmental impact from packaging and transportation, and typically reduce actual use-cost compared to less concentrated alternatives. However, to gain the environmental benefits and to protect workers exposed to these more highly concentrated products during mixing, extra care should be taken.

Products should always be diluted accurately according to manufacturer's directions. This can be achieved through a variety of methods including measuring cups, simple dispensing pumps and automated dilution equipment. Dilution control equipment is highly recommended because it minimizes the potential for human error and reduces the chance of chemical exposure to concentrates. Dilution equipment should be periodically checked for accuracy.

If using manual dilution, e.g. measuring cup or pump, cleaning personnel should understand that by adding extra chemical concentrate beyond recommended dilutions that the product will not necessarily perform better. In fact, surfaces can become slippery and / or take on a cloudy or streaked appearance due to chemical residue.

Finally, never mix cleaning products together. Some cleaning chemicals can react when mixed to give off dangerous by-products. Rinse containers after use.

GREEN SEAL

WHAT IS GREEN SEAL?

It's an independent, non-profit organization. To become certified, a product goes through rigorous testing by Green Seal.

TO CARRY THE GREEN SEAL LOGO, THE PRODUCT MUST:

- Reduce health risks to product users and building occupants
- Reduce environmental impact
- Be cost effective
- Work as well as or better than traditional

GREEN SEAL ENVIRONMENTAL STANDARD FOR GENERAL-PURPOSE, BATHROOM, GLASS, AND CARPET CLEANERS

Used for Industrial and Institutional Purposes (GS-37)
http://www.greenseal.org/standards/gs37.pdf

GREEN SEAL ENVIRONMENTAL STANDARD FOR FLOOR-CARE PRODUCTS, FINISHES, AND COMPATIBLE STRIPPERS

Used for Industrial and Institutional Purposes (GS-40)
http://www.greenseal.org/standards/gs40.pdf

PAPER PRODUCTS

GS-1 for bathroom tissue, GS-9 for paper towels
http://www.greenseal.org/recommendations/CGR_tissuetowel.pdf

Green Seal standards for other chemical product categories are continually under development, but it is a slow, rigorous process.

GREEN SEAL CERTIFICATION STANDARDS ONLY EXIST TODAY FOR A LIMITED NUMBER OF CHEMICALS.

ENVIRONMENTALLY PREFERABLE PRODUCTS

HUMAN TOXICITY - The acute oral LD50 is greater than 2000 mg/kg, and the inhalation LC50 is greater than 20 mg/L.

CARCINOGENS OR REPRODUCTIVE TOXINS - Free from prohibited ingredients and all known contaminants that are 1% or more (carcinogen 0.1% or > 0.01% for Green Seal reviews) by weight of the product.

SKIN & EYES IRRITATION - Undiluted product is not corrosive to skin or eyes (method indicated).

SKIN SENSITIZATION - Undiluted product is not a sensitizer.

COMBUSTIBILITY - Undiluted product has a flash point above 150° F.

OZONE/VOC - The volatile organic content of the product as used does not exceed 1% by weight for general purpose and bathroom cleaners;
or 3% by weight for glass cleaners, as determined by California Air Resources Board Method 310.
AQUATIC TOXICITY - Product as used (or all ingredients in the formula) has an acute LC50 for algae, daphnia, or fish > 100 mg/L.
AQUATIC BIODEGRADATION - Each organic ingredient exhibits ready biodegradability in accordance with OECD definition (except a FIFRA
registered bathroom cleaner active), as measured by 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). 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 biodegradation, the biodegradability in sewage treatment plants using the Coupled Units Test
found in OECD 303A has demonstrated dissolved organic carbon (DOC) removal > 90%.
EUTROPHICATION - Product as used does not contain more than 0.5% by weight of total phosphorus.
RECYCLABLE PACKAGING - Primary package is recyclable.
CONCENTRATE - Product is a concentrate (except FIFRA registered bathroom cleaners), as sold, with recommended use dilution of 1:8 or greater.
PROHIBITED INGREDIENT - Product not formulated with the following: Alkylphenol ethoxylates, nonlphenol ethoxylates, dibutyyl phthalate, metals
(including but not limited to zinc, arsenic, lead, cadmium, cobalt, chromium, mercury, nickel, or selenium), ozone-depleting compounds or
materials listed on JohnsonDiversey’s Global Action Red List.

EQUIPMENT

Vacuums
Model Type Carpet Style Manufacturer

Carpet Extractors
Model Type Provider/Manufacturer

Wet/Dry Vacuum
Model Type Provider/Manufacturer

Automatic Scrubbers
Model Type Provider/Manufacturer

Floor Machines
Model Type Provider/Manufacturer

Burnishers
Model Type Provider/Manufacturer