Overview

While it is accepted that lower-toxicity, environmentally-preferable or greener cleaning products are better for human health and global ecosystems, the question remains: **Do such products clean well when compared to conventional or even other green products?**

To help answer this question and promote cleaning products that are both green and highly effective, IEHA and the University of Massachusetts Lowell Toxics Use Reduction Institute’s (TURI) Surface Solutions Lab (SSL) have embarked upon a fee-based program for testing soil removal efficacy of hard-surface green cleaning products, and for recognizing products that perform well when compared to similar products (green or conventional).

**It May Be Green, But Does it Clean?**

IEHA’s High Performance Cleaning Product Program™ (HPCP™) tests, verifies and helps promote hard surface cleaning products with green attributes to enable selection of those that effectively clean a range of building and environmental surfaces. While green certification programs (e.g., Green Seal, EcoLogo, DfE, etc.) do include basic product performance and efficacy criteria as part of an overall environmental review, these organizations, while laudable, emphasize multi-attribute eco-factors more than comprehensive cleaning criteria. To fill this gap, HPCP rigorously targets the cleaning performance of greener products, taking testing to a higher level through application of realistic soils on surface materials likely to be found in actual facilities (e.g., white boards, stainless steel, textured or composite countertops, etc.) This provides end-users with practical test data they can use to improve their specific cleaning situation, and suppliers with lab-based verification of product efficacy under specific, challenging and real-world circumstances. Tests can also be customized to focus on surfaces and soils most likely to be encountered in specific environments such as schools, gymnasiuems, theatres, and more.

**Who Does the Testing?**

The testing is performed by the University of Massachusetts Lowell’s TURI Lab, a globally-recognized test lab specializing in performance testing of green products. TURI understands green cleaning product performance perhaps better than any other test facility in the world since they have been in the forefront of testing and helping to improve these products for industrial customers and others for nearly two decades.
What Kind of Recognition is Granted to High Performance Products?

Successful applicants whose products demonstrate high performance may mention their recognition in editorial and marketing venues (with approval of IEHA and the University of Massachusetts Lowell’s TURI Lab) and the data may be shared with others.

Both IEHA and UMass TURI will also list recognized products on their respective Web sites.

Neither IEHA nor TURI will issue or promote a formal logo for use on products or product packaging since it would be viewed as a form of certification. Rather, they will simply promote the value of performance testing and the TURI lab’s work, then publish the results of tests (at IEHA’s, the client’s, and TURI’s discretion) to provide solid science-based information to the cleaning industry.

In addition, successful applicants with recognized products can apply (at no cost) to be included in research and technical papers that describe the testing and outcomes for publication.

The University has agreed to permit its name and logo to be associated with the IEHA High Performance Cleaning Product (HPCP) testing arrangement as directly promoted by IEHA (though it may not be used directly by suppliers to promote their products), with appropriate disclaimers to protect the credibility of the institution, its research associates and IEHA.

Disclaimer: Neither the University of Massachusetts Lowell (UMass Lowell), the Toxics Use Reduction Institute (TURI) Lab or IEHA endorse products.

HPCP – How it Came About

The University of Massachusetts Toxics Use Reduction Institute (TURI) has been evaluating cleaning product performance for nearly 20 years, originally doing so for manufacturing plants seeking less toxic alternatives for industrial parts cleaning. In recent years, TURI developed tests to determine the efficacy of hard surface green cleaning or janitorial products, and, in many cases, has performed such tests for companies seeking to meet the basic performance criteria of green certification groups such as Green Seal or Ecologo.

Most recently, the TURI Lab recognized that the knowledge and expertise it had gained over almost two decades of cleaning product performance testing in a variety of settings could be used to raise the performance bar higher – to assist the cleaning industry in taking the performance of its green cleaning products to the next level.

The IEHA High Performance Cleaning Product™ (HPCP™) testing program was born out of this realization and through discussions with representatives of IEHA - Uniting Facility Managers Worldwide.
IEHA’s Promotion of the Program

IEHA may use the UMass Lowell and TURI names and logos to describe the HPCP testing program, pending approval of the proposed usage by UMass Lowell/TURI, and providing the following statement and disclaimer are included and easily readable:

**Statement:** “UMass Lowell/TURI’s involvement in the HPCP testing program is solely limited to testing products to established performance standards.”

**Disclaimer:** “UMass Lowell/TURI does not certify, endorse, recognize or recommend products.”

UMass Lowell and TURI’s Promotion of the Program

UMass Lowell and TURI may use the IEHA name and logo to describe the HPCP testing program, pending approval of the proposed usage by IEHA, and providing the following statement and disclaimer are included and easily readable:

**Statement:** “IEHA’s HPCP testing program recognizes products that meet established performance standards mutually agreed to by IEHA and UMass Lowell/TURI.”

**Disclaimer:** “IEHA does not certify, endorse, or recommend products.”

Applicants’ Promotion of the Program and Recognized Products

Applicants with products recognized under the HPCP program may use the IEHA name and display the IEHA logo under the following conditions:

IEHA permits the use of its name and logo in connection with the High Performance Cleaning Product (HPCP) testing program — including in press, editorial and product literature — pending approval of the proposed usage by IEHA and UMass Lowell/TURI, and providing that the statement and disclaimer below are included and easily readable:

**Statement:** “Recognized by IEHA as a High Performance Cleaning Product (HPCP).”

**Disclaimer:** “IEHA does not certify, endorse or recommend products.”

Applicants may not use the UMass Lowell and TURI logos in press, editorial and product literature. The use of the UMass Lowell and TURI names is permitted only in describing the partnership program and testing services provided by UMass Lowell/TURI, and pending approval of the proposed usage by UMass Lowell/TURI and IEHA.
Getting Started with HPCP Testing

Manufacturers accepted into the program will be queued on a first come, first served annual basis pending their submission of a deposit to initiate a Product Acceptance Review (PAR) and Product Safety Screening (PSS) process. In order to reserve a spot, manufacturers are required to submit a deposit for any hard surface cleaning products they are interested in having evaluated. Deposits for single products are $1,000 each. If you have multiple products you wish to have considered, the deposit will be $500 ea. This amount can be applied to the testing fees if/when the products are approved for the program. Testing fee amounts will vary based on the testing package requested by the manufacturer or supplier. If the products are not accepted into the program - or the supplier decides not to proceed with testing - these funds will be returned minus 20%. The Product Safety Screening (PSS) itself has value to companies for marketing purposes. If companies choose to simply participate in the PSS and utilize the HPCP product safety score for marketing purposes, then the HPCP Program will retain the deposit as payment. The initial Product Safety Screening (PSS) includes product evaluation in these categories (subject to change or amendment):

- Volatile Organic Content (VOCs)
- Global Warming Potential (GWP)
- Ozone Depletion Potential (ODP)
- National Fire Protection Association (NFPA) hazard or Hazardous Material Information System (HMIS) ratings
- pH

Each product gets a Safety Screening Score based on 50 points, 10 point maximum for each parameter listed. A higher safety screening score implies a safer product in the categories assessed.

Examples of HPCP General Test Methods

Laboratory Bench Testing

Tests are designed based on supplied information on potential product usage on multiple surfaces and contaminants. When incorporating the dilutions used for the products, multiple cleaning options are established. Identified cleaning products are diluted to the vendor’s recommended concentrations for cleaning using DI water.

Example: Three fiberglass and plastic coupons are coated with an SSL Soil-type (e.g., #3 All Purpose Soil), using a hand held swab and allowed to dry for 24 hours at room temperature. The soiled coupons are cleaned using a Gardner Straight Line Washability unit and wiped dry. Observations are made to determine removal rates based on the semi-quantitative values ranging from 0 to 100% with 25% increments.
**Coupon Testing**

Coupons, also known as panels, are usually rectangular (approx. 2” x 4”), flat sheets matched to the cleanable surface’s material of construction; for example, stainless steel, ceramic, vinyl composition tile, laminate, or glass. Coupons are number-etched for identification. This testing is conducted in triplicate (minimally) and consists of:

1. Initial weighing of pre-cleaned coupons by means of an analytical balance (wt. accurate to 0.0001 g)
2. Applying the appropriate contaminant (oil, grease, wax, etc.) to the surface of the coupons with a hand-held swab as consistently as possible
3. Re-weighing the artificially-contaminated coupons
4. Performing the cleaning trial (e.g., entailing the primary elements of cleaning such as time, agitation, concentration and temperature, collectively known as TACT) based on client supplied information
5. Final and third weighing of cleaned coupons.

**Non-Agitated Testing**

Typically the TURI SSL operates using the following TACT conditions during initial testing of cleaning solutions when no specific information is provided from the client:

- **Time:** 5 minutes
- **Agitation:** Immersion with stir bar agitation
- **Concentration:** 5% by volume diluted with deionized (DI) water
- **Temperature:** 130°F

For these experiments, a 500 ml Pyrex beaker of the cleaning solution is prepared according to the client’s specifications and brought to the recommended temperature on a hot plate with stir bar agitation. The contaminated coupons are then suspended in the beaker and removed after a preset time interval. This procedure minimizes the mechanical energy supplied during the trial to reveal differences in cleaning efficiencies for chemical cleaners based mainly on chemical activity rather than agitation.

**Gravimetric Analysis, Before and After Cleaning**

The following information is used to calculate the efficiency of a chemical cleaner:

- **Initial Weight:** A
- **Dirty Weight:** B
- **Cleaned Weight:** C
- **Percent Removal:** D

The lab continues with more detailed testing of cleaning chemicals or products with specific cleaning equipment, materials and other surface inspection techniques, depending on the test parameters required by the manufacturer and other requests for technical assistance.
Other Methods

TURI SSL may perform a variety of other tests such as performance evaluation using gloss and color readings, slip resistance testing, etc. In addition, non-chemical hard surface cleaning products may also be evaluated, including vacuum cleaners, spray-and-vac machines, floor scrubbers, steam vapor and other devices.

Test methods are based on, but not limited to: ASTM G122, ASTM D3556, ASTM D4488 (A5), ASTM D5343, ASTM D4009, ASTM E1593, ASTM D1792, CCD 110, DCC09 & 09A, DCC16 I & II, Marble block test, DCC17, DCC05A, DCC10, and DCC12.

Does the HPCP Program Test Cleaning Equipment?

The HPCP program in conjunction with the TURI Laboratory at UMass Lowell can help by testing the performance of your qualified equipment; providing data and feedback to help you make improvements to equipment and processes, and validate performance claims.

Examples of previous tests — a small sampling of what is possible — include:
• Hard floor vacuuming using a backpack vacuum vs. dust mopping
• Hard surface cleaning using microfiber vs. paper towel vs. cloth wipe
• Hard floor cleaning with a steam vapor device compared to other methods
• Comparison of hard floor cleaning using automatic scrubbers

Contact IEHA and the TURI Lab to learn about the scientific testing methods used to evaluate and compare cleaning equipment and processes.

Contract Terms

TURI and IEHA have developed a service contract for execution by applicants that submit products for testing, which agreement shall provide for indemnification of TURI and IEHA.

The service contract requires applicants to submit products for re-testing (and remit appropriate re-testing fees) every five years if they wish to continue to use or reference the recognition, or when product attributes or ingredients change, whichever comes first.

Confidentiality of Findings

The test outcomes will be kept confidential to IEHA, TURI, and the applicants for one year unless the applicants release all or a portion of the findings in a manner approved by IEHA and TURI prior to that.

Compliance with Laws

The testing program will be conducted in compliance with all applicable laws, including without limitation environmental, health and safety, and export control laws, as well as insurance requirements of IEHA and TURI and the applicants.

For More Information, Please Contact:

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