SUSTAINABILITY ACTION RESEARCH
2018 FINAL REPORT

Sustainable Purchasing:

Evaluating new cleaning products for UCLA facilities management

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Meet the Team

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Foundations

The 2018 Sustainable Purchasing team was developed as a continuation of the 2016 team, which focused on environmentally preferred purchasing at UCLA. This year, with stakeholders in Facilities Management, the team decided to tackle green cleaning at UCLA with the opportunity to aid in the transition of cleaning chemicals used by Custodial Services. With a different angle on sustainable purchasing that considers both environmental impact and human health, the team was able to investigate purchasing in a completely different way.

Introduction

UCLA has an enormous amount of purchasing power due to its immense size and popularity; thus, the decisions made by UCLA in terms of purchasing have a large environmental impact and could motivate other universities to focus more on sustainable purchasing. Some cleaning chemicals can have toxic effects on human health and the environment. This is why it is important for institutions such as UCLA to focus on purchasing environmentally preferred products. Additionally, state agencies like the University of California Regents have mandated that environmentally preferred products are purchased whenever possible.

Sustainable purchasing is the procurement of products and services that have a lesser or reduced effect on human health and the environment

when compared with competing products that serve the same purpose. In terms of purchasing, UCLA can help move other universities and large institutions towards buying more environmentally friendly, green products. Facilities Management supervises all of the cleaning for the campus. After the discontinuation of the Hillyard product Suprox that has been used for years, Facilities was looking to find one company that would supply the majority of chemicals for the school, instead of working with several companies to supply a few products. Working with one company would make the purchasing process more centralized and more convenient for Facilities and the custodians.

The goals of the Sustainable Purchasing team were to (1) evaluate, (2) research, (3) discuss, and finally (4) recommend. At the start of the SAR program, the Sustainable Purchasing team evaluated the current major cleaning products that were being used by Facilities. None of the chemicals had any adverse impacts on human health and the environment; however, prolonged use could lead to a negative outcome. After evaluating the current chemicals being used, the Sustainable Purchasing team researched potential replacements for the current chemicals from companies offering sustainable cleaning chemicals. From there, the team analyzed the effectiveness, cost, and environmental and health impacts. The Sustainable Purchasing team sat in on a number of meetings with major cleaning chemical providers, such as Waxie, 3M, Ecolab, Royal Corporation, Diversey, and Veritiv. The team then conducted research on the benefits and costs of the cleaning chemicals

being offered by these companies. Next, the custodians on campus were given a sample of the new, environmentally friendly cleaning chemicals to test out during their everyday cleaning routine. The Sustainable Purchasing team discussed with the custodians their experiences using the new cleaning products. Overall, there was a very positive response from the custodians regarding the new cleaning chemicals. Their effectiveness was equal to the old cleaning chemicals and the custodians could tell these chemicals were better for their health and wellbeing. Lastly, the Sustainable Purchasing Team recommended purchasing decisions to Facilities Management based off of their research and the custodians' reactions.

Background

Sustainable purchasing is making a conscious effort to purchase products that are economically, environmentally, and socially sustainable. This practice takes into account the full life-cycle and net benefits of a product. For example, sustainable purchasing can range from choosing to buy recycled printer paper, to investing in an energy-efficient appliance. In essence, it is minimizing one's waste and carbon footprint through individual

purchasing decisions.

Aside from following state agency's sustainable purchasing mandates, the UC established their own sustainable practices policy and UCLA individually created a sustainability steering committee. UCLA uses the BruinBuy system to purchase supplies in which only authorized buyers can use the website. There are sustainability policies that UCLA mandates, but according to the previous SAR team, they are vague and the connection between procurement guidelines and the actual staffers themselves is weak (Li et al., 3).

The previous SAR team focused on green purchasing of office supplies for UCLA Housing. The previous SAR Green Purchasing Team received data on the purchasing behaviors of UCLA employees and knowledge of the resources available to them through surveys. In their survey they found that only about half of registered purchasers were aware of UCLA's sustainable procurement guidelines. Additionally, the team reviewed the EPA's and Office Max's sustainable product recommendations on their respective websites. With this information the team created their own "Green Office Catalog" attached with SKU numbers so that the items could be easily found in UCLA's BruinBuy system, as well as the cost and reasons why that product is being recommended. In spring quarter, the team held "Lunch and Learn" information sessions with purchasers that showed them how to use the catalog and explained the importance of sustainable purchasing. We concluded that the previous SAR team had effectively made change within

the purchasing of UCLA Housing, which is why we found a new niche within UCLA, Facilities Management.

Through our stakeholder Rene Lydon, we received word that Facilities would be selecting a new company to provide UCLA with cleaning products. Our team quickly became excited at the idea of working with both Facilities Management and the custodial staff to come to a decision that would benefit both parties. The custodial staff at UCLA are essentially an invisible workforce, as Rene likes to put it, so we felt this project would be a fantastic opportunity that encompasses all three aspects of sustainability: environmental, economic, and social.

According to the report "Guide to the business case & benefits of sustainability purchasing," businesses can benefit from practicing sustainability in their large-scale purchasing decisions. The report outlines the financial, social, and environmental benefits by giving real-world examples of how consumers have profited by switching their purchasing habits. The authors synthesized previous data available on corporate social responsibility and the cost-savings of sustainability practices, then tailored it towards sustainable purchasing while adding the social and ethical benefits. Additionally, the report received feedback from eleven Canadian sustainability purchasing practitioners and experts.

The effects of sustainable purchasing are numerous. The impacts do not just benefit the environment; rather, they have far-reaching socioeconomic benefits as well. Sustainable products often last longer and

use fewer material resources, thus the extended life of a product reduces waste disposal costs (Strandberg). Furthermore, sustainable purchasing focuses on not just the product itself, but how one chooses to buy said product. By purchasing in bulk, the consumer generates savings from the supplier on high-volume orders, through the reduction of transportation costs. Sustainable purchasing has many social benefits, such as helping build one's brand. It is becoming increasingly important for companies and individuals to think green when mulling over a purchasing decision. News outlets will write stories on major companies that adopt sustainable purchasing guidelines as large companies have the moral obligation due to their great purchasing power (Strandberg).

Methods

Chemicals: Evaluating the currently used cleaning products at UCLA

To assess the state of green cleaning at UCLA, the team first reviewed the chemicals used on campus, focusing on the products that would not be replaced. This initial assessment allowed the team to become familiar with the types of cleaning products used on campus, and develop a methodology for assessing how green certain chemicals are. Using primarily Safety Data Sheet (SDS) information about the chemicals, the team gathered information about:

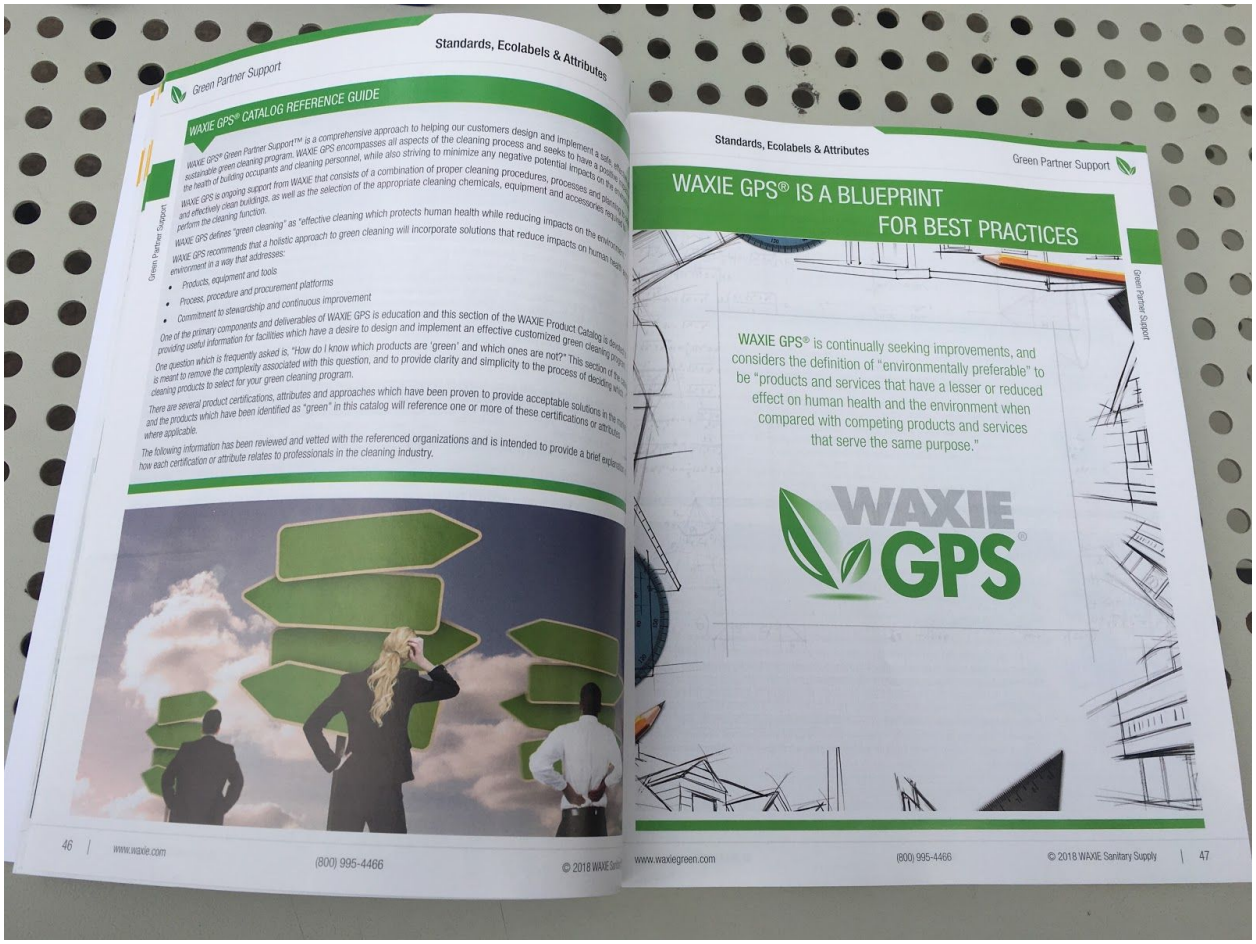
- Manufacturer
- Recommended Use
- Appearance
- Odor
- Hazard Statements
- Warning or Danger Signal Words
- Chronic Health Effects
- PPE Required
- Toxicity Information

After reviewing 12 of the chemicals consistently purchased by Facilities Management, the team found that a few had disconcerting chronic health effects. These included:

- BETCO Best Bet Liquid Crème Cleanser: Carcinogen
- Champion Chemical Lemon Furniture polish: Carcinogen

This information made the team more aware of the possible chronic health effects associated with cleaning chemicals. After discussing these results with stakeholders in Facilities Management, the team determined that because the chemicals associated with chronic health effects were not used daily by custodial workers, they were not the first priority for purchasing changes. Custodial staff receive the majority of chemical exposure from the cleaners they use multiple times each day, often bathroom and surface cleaners. The team acknowledges that the less-used chemicals are still important to assess and eventually replace with less-toxic alternatives, however this was out of the scope of their project goals of maximizing sustainability of the most commonly used chemicals. They recommend that future projects investigate more closely the toxicity of these products and possible alternatives.

Options: Researching potential replacements



Stakeholders in Facilities Management and the team then met with five potential chemical suppliers to learn about the chemicals the companies had to offer and discuss how the products would contribute to sustainability and green cleaning on campus. The companies gave sales presentations then answered questions about specific products and the customer support they provide for clients. Summaries from each meeting are:

Ecolab: Emphasized their training programs, both in-person and online. Included the ecolabels their chemicals are certified with, both Green Seal Certified and EPA Safer Choice. Highlighted their Sustainability Savings

program to reduce packaging waste and provided a chemical-for-chemical comparison for the products UCLA currently uses.

Veritiv/3M: Also emphasized the importance of customer support and training to ensure that chemicals are being diluted and used properly to maximize sustainability, safety and efficiency. Noted the silk-screened labeling of their bottles, which ensures labels do not rub off and streamlines use. They take pride in being the original creators of dilution control mechanisms, which ensure the correct dilution of chemicals from superconcentrate.

Diversey: Products with Green Seal Certification, Eco Logo, and Green Guard. Discussed wall-mounted and portable dilution systems, and cleaning technology such as TASKI machines that use robotic technology to automate or increase the efficiency of cleaning.

Waxie: Discussed the wide variety of cleaning chemicals they have available. Emphasized their bilingual training programs and eco labels available: Green Seal Certified, Eco Logo, and EPA Safer Choice. Highlighted their WAXIE-Green and WAXIE Bioactive lines. The Bioactive products featured microbe technology to break down organic matter.

Royal: Discussed paper products as well as some biodegradable cleaning products. Highlighted their Revolution bag made from recycled irrigation tubing, bamboo and eucalyptus paper towels and roll-less toilet paper.

After considering options from each company, the stakeholders decided to look at three options more closely: 3M, WAXIE-Green, and WAXIE-Bioactive. With more information about what chemical properties were most important for Facilities Management, the team then refined their research criteria to assess the 21 cleaning products in these three lines. To compare each chemical, the following aspects were considered:

- Ecolabels
- Toxicity
- Chemical Reactivity
- Incompatible Materials
- Environmental Impact
- Dwell Time
- Fragrance
- Unit of Measure
- Dilution
- Packaging
- Ease of Use
- Application Method

Most of the criteria could be assessed through SDS and online information from the manufacturer. However, aspects such as dwell time, ease of use, and application method proved more difficult to find, and the team relied on interviews with custodians for this information. After gaining clearance from the UCLA Environment, Health and Safety department, the 3M chemicals were distributed to a few buildings on campus for testing by custodial staff.

Feedback: Interviewing custodians

The team arranged a focus group with 7 members of the custodial staff who had tested the 3M chemical line for 6-8 months. Some questions the team asked the custodians were:

- What new cleaning products did you test?
- Did you find it easier, harder, or the same to use than what you normally use? (Consider time, effort/labor, fragrance, effectiveness)
- Would you be interested in learning more about the environmental impacts of the cleaning products you use?
- How important are the following for the various janitorial products that you use? (Very important, somewhat important, not important): Safe to use, Effective, Easy to mix & use, Clearly labeled products, Good vendor technical support, Good vendor training, Minimize environmental impact
- Can you think of any ideas to make custodial services more sustainable? (Consider energy, waste, water)

The questions prompted a candid conversation about the custodians' experience with the 3M products, as well as their experience with new cleaning chemicals in general. The questionnaire can be found in Appendix A.

Next Steps: More products to be tested

The focus group proved to be an invaluable aspect of the research into new cleaning chemicals. Approval of chemicals by the custodial staff is one of the most important aspects in making a purchasing decision because they are the group that works directly with the chemicals every day. If custodians do not like a certain chemical or feel that it is not doing its job, the chemical will likely be used incorrectly and therefore inefficiently. As the WAXIE-Green and WAXIE-Bioactive products begin to be tested, the team recommends that the same interview format takes place to determine which line is preferred by the custodial staff and which line is the best fit for campus.

Results

The SDS data collected for the 3M, Waxie, and Waxie-Bioactive are shown in the attached spreadsheet (Appendix B). Each cleaning chemical has its specific safety parameters, and these chemicals are organized by their cleaning line. In the 3M cleaning line, three of four chemicals had Green Seal certification. This line mainly consisted of everyday cleaning products such as bathroom, glass, and hard surface cleaners. When looking at the Waxie lines, we saw 15 of 18 chemicals had either Green Seal or Ecologo certification. Nine of these chemicals had EPA's lowest toxicity rating for cleaning chemicals. These cleaning lines contained everyday cleaning products, but also some of the heavy duty cleaning needs of Facilities Management. Some of these chemicals of interest from Waxie-Bioactive include the microbe based cleaners that can eat away at certain materials and serve as a drain cleaner.

The focus group we conducted to understand what the custodial staff's perception of the new line was in terms of effectiveness. This focus group was helpful in understanding the front line perspective and gave valuable

feedback for Facilities Management. The overwhelming majority of custodians preferred the 3M line as much or greater than the prior line. The only 3M product that was met with mixed reviews was Glass Cleaner 17A. Custodians cited streaks forming on glass and mirrors in high traffic bathrooms like gyms. The staff also brought up the ease of use of the wall mounted dilution control systems. These systems are found in custodial closets and produce the correct dilution with water to avoid highly concentrated chemical use. Portable units were used in the past and were unreliable and disliked by custodians, therefore reliable and user-friendliness are valuable for such a large campus.

Challenges and Difficulties

The vast grounds our project will cover are what make it exciting and impactful, but it also provides a host of challenges. UCLA is a huge campus – with over 100 buildings, Facilities Management has to consider multiple building types, uses, and restrictions in their purchasing decisions. The issue with Glass Cleaner 17A showcases an example of how some chemicals may not work across all of campus. Although Facilities is trying to simplify their chemical list, these nuances are what complicate the process, making proper research and testing more essential.

A large campus requires a large facilities and custodial staff to manage it, which can also bring about challenges. Facilities had multiple people

involved in the chemical selection process – when our team is added into the mix, that creates a rather large group to try and fit into a room. There weren't many slots when everyone was available at the same time to meet, so often for meetings it became a matter of "whoever's able to make it." Our team abated this issue by constantly updating a meeting notes document for other team members to refer to, and by being lively in the Groupme as well. This was especially helpful in catching up team members on the vendor and distributor pitches, so that everyone had a good idea of what products and companies were being presented.

Having a large staff also meant that sometimes, things were out of Facilities Management's control; for example, the strike in May slowed down the project a bit as Facilities had to re-prioritize their operations. A large staff also requires diligent organization in updated training. Although many of the vendors in their pitches emphasized their constant training, our conversations with the custodians revealed that while they often received safety training, vendors didn't come in often with training on specific chemicals. Easy, widespread devices like the wall-mounted dilution system help with that.

The custodial staff, in its large size, is also the most important factor to consider when purchasing new chemicals. Sustainability, cost, and quality of cleaning products are all important, but the health and safety of the custodians must be prioritized. To make sure this was included in our recommendations, our team decided to create a questionnaire to ask the

custodians not just how they felt about the effectiveness of the new chemicals, but also if they felt it was better for their health. Creating this questionnaire was tricky. We first thought about making a survey to hand out beforehand, but our stakeholders pointed out that the paperwork vibe behind it may discourage custodians from filling it out, and that personal focus group-type sessions might be more informative. Deciding on questions to ask was also a challenge, as we didn't want to ask anything that could be considered a leading question – i.e. "Do you think the cleaning chemicals are bad for your health?" Instead, we were careful to formulate non-biased, open-ended questions that allowed the custodians to speak freely. Indeed, when we met up with them, they brought up their own concerns with health and safety unprompted by us. The conversation was very informative in influencing our final recommendations.

We all anticipated that we might encounter greenwashed eco-labels and have to sort through which ones were legitimate, but the chemicals we analyzed all ended up having the most mainstream, widely-accepted eco-labels: Green Seal, USDA or EPA Certified, and Ecologo. Thus, we knew the chemicals met certain environmental standards, and could focus more on the other important parts of their SDS. Furthermore, we were worried that these "greener" cleaner products might be less effective or more time-consuming to use, thus making the custodians' jobs harder. However, in our interviews with them we found that they liked most of the chemicals and found them as effective as the last ones. This shows that sustainable

purchasing doesn't require one to sacrifice quality of work at the expense of human and environmental health.

Conclusions

For the cleaning process of any campus as large and densely populated as UCLA, efficiency will always be an absolute priority. However, UCLA's Facilities Management has made a visibly strong commitment to balancing the safety of custodians and students alike through their careful management of the shift to new product lines. By involving the custodial staff in a more direct manner throughout the transition between products, it has become apparent how conscious the staff is of the health effects of cleaning

products. Most are at least somewhat concerned about how the products they interact with everyday affect not only their health, but the safety of the students they often see as their direct clients. Going forward, the purchasing decisions made by Facilities Management should continue to follow this example by supporting safety in addition to efficiency. Safety should involve not only the product quality, but the proper and consistent training of the staff, many of whom have been here for decades.

The strides made by Facilities Management are a step in the right direction when trying to make UCLA a model of green purchasing and health and safety while still taking the opinions of the staff into consideration. The selection and rollout of 3M products were an excellent first step and set an important precedent of staff and student involvement as UCLA attempts to make the campus increasingly conscious of its environmental impact. If decisions surrounding future practices on campus are made with the same care and precision shown by Facilities Management, the campus will be in a great position to continue as a institutional leader in sustainability as well as health safety.

References

Li, Mochi, et al. “2016 Sustainability Action Research Housing Team Final Report: Environmentally Preferred Purchasing,” UCLA Institute of Environment and Sustainability, 2016.

Strandberg, Coro, and Amy Robinson. Guide to the business case & benefits of sustainability purchasing. Sustainability Purchasing Network, 2007.

Appendix

Appendix A: Custodian Questionnaire

SAR Sustainable Purchasing Team
May 2018

Custodial Staff Questions

1. What new cleaning products did you test?

2. Did you find it easier, harder, or the same to use than what you normally use?
    a. Consider time, effort/labor, fragrance, effectiveness.

3. Would you be interested in learning more about the environmental impacts of the cleaning products you use?

4. How important are the following for the various janitorial products that you use? (Very important, somewhat important, not important)
    a. Safe to use
    b. Effective
    c. Easy to mix & use
    d. Clearly labeled products
    e. Good vendor technical support
    f. Good vendor training
    g. Minimize environmental impact
    h. Other issues?

5. Can you think of any ideas to make custodial services more sustainable?
    a. Consider energy, waste, water.

6. Any last comments?

Appendix B: Chemical Comparison Spreadsheet

Chemical	Ecolabels	Toxicity	Chemical Reactivity	Incompatible Materials	Environ. Impact	Dwell Time	Fragrance	Unit of Measure	Dilution	Packaging
3M										
3M Peroxide Cleaner Concentrate 34A	Green Seal™ GS-37 Certified	Eye (category 1) and Skin (category 2) Irritation. 10% of mixture contains ingredients unknown to cause acute inhalation toxicity.	N/A	Strong oxidizing agents	do not release into sewers or bodies of water.	No rinsing required. Let stand for several minutes	low odor	.5 gallon	1:100 concentrat e dilution ratio. Makes 50 gallons	4/case
3M Glass Cleaner and Protector 17A	Green Seal™ GS-37 Certified	Serious Eye Damage/Irritation (category 2). 22% of mixture contains ingredients unknown to cause acute inhalation toxicity.	Flammable (category 3)	N/A	Avoid release to the environme nt	"Dries faster than other glass cleaners"	non-ammon iated formula	.5 gallon	1:82 concentrati on dilution ratio. Makes 41 gallons.	4/case
3M Neutral Quat Disinfectant Cleaner Concentrate 23A	EPA Registered Disinfectant	Acute Toxicity (oral): Category 4. Serious Eye Damage/Irritation: Category 1. Skin Corrosion/Irritation: Category 1C. Skin Sensitizer: Category 1. Reproductive Toxicity: Category 2.	Corrosive to metal (Category 1)	strong acids	avoid release to the environme nt	10 minutes	low-lemon scent	.5 gallon	1:256 concentrati on dilution ratio. Makes 128 gallons.	4/case
3M Bathroom Cleaner Concentrate 44A	Green Seal™ GS-37 Certified	Serious Eye Damage/Irritation: Category 1. Skin Irritation: Category 1. Specific Target Organ Toxicity (single exposure): Category 3.	Corrosive to metal (Category 1) 33% of the mixture consists of ingredients of unknown acute inhalation toxicity.	strong bases	avoid release to the environme nt	"Briefly allow to air dry"	pleasant fragrance	.5 gallon	1:49 concentrati on dilution ratio. Makes 24 gallons.	4/case
WAXIE										
70 WAXIE HP Disinfectant Cleaner	N/A	N/A	N/A	Strong acids, strong bases, metals, salts, organics, reducing agents, dust and dirt.	AS SOLD: aquatic toxicity (category 3)	N/A	Mild floral	0.5 gallon	automatic 1:64	4/case
13 WAXIE-Green Cleaner Degreaser	ECOLOGO UL 2759; CACC Certified; USDA Certified Biobased Product; OMRI Listed for Organic Products	Not classified as having acute toxicity, may cause mild irritation	N/A	N/A	Avoid spills of over 4 gallons into environme nt	N/A	None	0.5 gallon	1:16 for bottles, 1:32 for mop buckets	4/case
23 WAXIE-Green Maravilloso Lavender Neutral Cleaner & Degreaser	ECOLOGO UL 2759	Not classified as having acute toxicity	N/A	N/A	Avoid spills of over 4 gallons into environme nt	N/A	Lavender	Gallon	N/A	4/case
43 WAXIE-Green HP Multi-Purpose Cleaner	Green Seal™ GS-37 Certified	Acute toxicity (oral, category 4), skin corrosion (category 1A and 1B), Serious eye damage (CAtegory 1), acute aquatic toxicity (Category 3), chronic aquatic toxicity	N/A	Strong acids, strong bases, metals	None	N/A	Clean Cotton	Gallon	5oz/gallon on bottle fill 0.5oz/gallo n on bucket fill	4/case

		(Category 3)								
93 WAXIE-Green Fresh Mist Hard Surface Cleaner	ECOLOGO UL 2796	N/A	NA	Acids	Avoid spills of over 4 gallons into environment (but no hazard)	N/A	Green Fresh Mist	Gallon	1:16 for bottles 1:32 for mop buckets	4/case
33 WAXIE-Green Restroom Cleaner	ECOLOGO UL 2759; CACC Certified; USDA Certified Biobased Product	N/A	N/A	N/A	Avoid spills of over 4 gallons into environment (but no hazard)	N/A	None	Gallon	1:16 for spray bottles 1:32 for buckets	4/case
53 WAXIE-Green Glass Cleaner	ECOLOGO UL 2759; CACC Certified; USDA Certified Biobased Product	N/A	N/A	Strong oxidizers.	Avoid spills of over 4 gallons into environment	N/A	Mild	.5 Gallon	Automatically diluted at 1:32	4/case
24 WAXIE-Green Neutral Cleaner	ECOLOGO UL 2759; CACC Certified; USDA Certified Biobased Product	Acute Toxicity (Oral Category 5) Eye Damage/Irritation (Category 2B) Skin Corrosion/Irritation (Category 3)	N/A	Strong oxidizing agents, strong acids, strong bases, water reactive materials.	Avoid spills of over 4 gallons into environment	N/A	Citrus	Gallon	1:108; Each bottle makes 102 gallons	4/case
WAXIE Bioactive										
WAXIE Bio-Active Petroleum Cleaner	ECOLOGO UL 2792	Acute Toxicity (Oral Category 5)	N/A	Strong oxidizing agents, strong acids, strong bases, water reactive materials	None	N/A	None	Gallon	1:32 to 1:64	4/case
WAXIE CDC Chute, Dumpster & Compactor Cleaner	ECOLOGO UL 2792	None	N/A	Strong oxidizing agents, strong acids, strong bases, water reactive materials	None	Instant	None	Gallon	1:10 to 1:20	4/case
WAXIE CSL Calcium, Scale & Lime Remover	N/A	Acute Toxicity (Oral Category 5)	N/A	Strong oxidizing agents, strong acids, strong bases, water reactive materials	None	N/A	None	Gallon	1:24	4/case
WAXIE Drainzyme HD Drain Maintainer	N/A	Acute Toxicity (Oral Category 5)	N/A	Strong oxidizing agents, strong acids, strong bases, water reactive materials	None	N/A	None	5-Gallon	based on application	drum
WAXIE Fresh Mist Liquid Microbes	ECOLOGO UL 2792	Acute Toxicity (Oral Category 5)	N/A	Strong oxidizing agents, strong acids, strong bases, water reactive materials	None	N/A	N/A	N/A	1:8 to 1:16	N/A
WAXIE Solution Station #330 Fresh Mist Liquid Enzymes	ECOLOGO UL 2792	Acute Toxicity (Oral Category 5)	N/A	Strong oxidizing agents, strong acids, strong bases, water reactive materials	None	N/A	Can be scented	Gallon	1:8 to 1:16	N/A
WAXIE Liquid Microbes	ECOLOGO UL 2792	Acute Toxicity (Oral Category 5)	N/A	N/A	None	N/A	N/A	N/A	N/A	N/A

WAXIE MicroDrain Cleaner	N/A	AS SOLD AND DILUTED: Acute Toxicity (Oral Category 5)	N/A	Strong oxidizing agents, strong acids, strong bases, water reactive materials.	None	N/A	None	Gallon (1, 5, or 15)	Based on application	4/case, drum
WAXIE Unbelievable Hard Surface Cleaner	ECOLOGO UL 2792	Acute Toxicity (Oral Category 5)	N/A	Strong oxidizing agents, strong acids, strong bases, water reactive materials.	None, contains enzymes	N/A	None	1gal, 3 gal, 5 liter	1:32 to 1:64	5 gal drum