CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2004

DateRun: 10/25/2004

Experimenters: Jason Marshall

ClientType: General

ProjectNumber: Project #1

Substrates: Ceramics, Plastic

PartType: Coupon

Contaminants: Hucker's Soil

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: To evaluate biobased products for cleaning toilet bowls

Experimental Procedure: Six products were selected from the lab's inventory of biobased cleaning products. The client's current product was also included for comparative purposes. Five of the products were diluted with water to the vendor-recommended concentration. Pre-weighed coupons of ceramic (3) and plastic were coated with a diluted Hucker's Soil and allowed to dry overnight at ambient temperature. The contaminated coupons were weighed using a Denver Instrument Model A-250 analytical balance to determine the amount of soil added (i.e., initial weight).

The coupons were placed in a Gardner Straight Line Washability unit, as referenced in ASTM International (formerly the American Society for Testing and Materials) standards and by CSPA, the Consumer Specialty Products Association's (formerly CSMA) detergent compendium. A professional painter's rag was attached to the cleaning sled and soaked with 5-7 sprays of cleaning solutions. Each coupon was sprayed 7-10 times with the same cleaning solution. The cleaning unit was run for 20 cycles (approx. 33 seconds). The coupons were wiped once with a dry paper towel. Gravimetric weights were recorded once more, from which the remaining soil (i.e., final weight) can be determined.

Results: Nearly all of the products tested removed over 80% of the diluted Hucker's soil from the two substrates. The table list the amount of soil added, the amount remaining and the percent removed for each coupon.

		Ceramic Results			Plastic Results		
Cleaner	Conc. %	Initial wt	Final wt	% Removed	Initial wt	Final wt	% Removed
Husky TBC	100	0.048	0.0032	93.33	0.0417	0.0088	78.9
	0.0838	0.0182	78.28	0.0264	0.0014	94.7	
	0.0228	0.0001	99.56	0.0134	0.0032	76.12	
SC TBC	2.5	0.0191	0.0027	85.86	0.0134	0.0032	76.12
	0.0215	0.0024	88.84	0.0195	0.0029	85.13	
	0.0537	0.0018	96.65	0.0339	0.0011	96.76	
Super H2O2	3.9	0.0466	0.0009	98.07	0.0255	0.0021	91.76
	0.0985	0.0078	92.08	0.0154	0.0026	83.12	
	0.0822	0.0379	53.89	0.0249	0.0043	82.73	
H2Orange2	1.6	0.1501	0.0609	59.43	0.0215	0.0159	26.05
	0.0367	0.0066	82.02	0.0222	0.0089	59.91	
	0.0354	0.0048	86.44	0.0365	0.004	89.04	
Grout Safe	1.6	0.0372	0.0012	96.77	0.034	0.0057	83.24
	0.0326	0.0017	94.79	0.0204	0.0025	87.75	
	0.0179	0.0019	89.39	0.0306	0.0022	92.81	
Ecogent GPC 2.5	0.0342	0.0096	71.93	0.0266	0.005	81.2	
	0.0468	0.0008	98.29	0.0248	0.002	91.94	
	0.0263	0.0018	93.16	0.025	0.0038	84.8	
Soy Cream Cleaner	100	0.0233	0.0009	96.14	0.018	0.0035	80.56
	0.0287	0.0051	82.23	0.0128	0.0014	89.06	
	0.0397	0.0028	92.95	0.0338	0.0027	92.01	

Summary:

Substrates:	Ceramics, Plastic				
Contaminants:	Hucker's Soil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Mishua Industries Inc	Husky Toilet Bowl Cleaner	100	84.28		

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Gemtek Products	SC Toilet Bowl Cleaner	2	88.23	☑	
Cleanline Products	H2O2 Super Citrus Concentrate	4	83.61	☐	
EnvirOx LLC	H2Orange2	2	67.15	☐	
EnvirOx LLC	Grout Safe	2	90.79	☑	
Bi-O-Kleen Industries	Soy Cream Cleaner	100	86.89	☑	
Cogent Environmental Solutions	Ecogent General All Purpose Cleaner	2	88.83	☑	

Conclusion: Four products tested averaged 85% removal of the soil from the two substrates.