CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2010
DateRun:	12/21/2010
Experimenters:	Johnny Le
ClientType:	General
ProjectNumber:	Project #1
Substrates:	Ceramics, Fiberglass, Chrome
PartType:	Coupon
Contaminants:	Films, Soaps
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	To evaluate the supplied products for bathroom cleaning using manual cleaning
Experimental Procedure:	The supplied cleaning products were used at the recommended concentration. Preweighed chrome, ceramic and fiberglass, coupons were coated with SSL Soil 1 (Bathroom soap scum: All-in-one shampoo and conditioner 28.6%, Dry skin lotion 21.4%, Liquid hand soap 21.4%, Liquid body wash 14.3%, Deodorant bar soap 7.2% and water 7.1%.) using a hand held swab and allowed to dry for 24 hours at room temperature. The contaminated coupons were weighed again to determine the amount of soil added. Three coupons were placed into a Gardner Straight Line Washability unit. A Wypall X60 reinforced wipe 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 solution was allowed to penetrate for 30 seconds followed by cleaning in the SLW unit for 20 cycles (~33 seconds). At the end of the cleaning, coupons were wiped once with a dry paper towel. Final weights were recorded and efficiencies were calculated and recorded. Products were selected based on kitchen cleaning needs and health and safety options.
Results:	The MD Stetson PC116 was the only product to remove more than 85% of the bathroom soap scum mixture. The client's supplied product DfE 401 had the second highest efficiency at 83%.The table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed	Overall Average
TMI DfE 401 Fiberglass				
	0.0574	0.0039	93.21	82.87
	0.1438	0.0198	86.23	
	0.1628	0.0118	92.75	
TMI DfE 401 Chrome				
	0.0751	0.0083	88.95	
	0.0530	0.0036	93.21	
	0.0756	0.0045	94.05	
TMI DfE 401 Ceramic				
	0.1588	0.0429	72.98	
	0.1678	0.0695	58.58	
	0.1531	0.0522	65.90	
H2Orange 2 Fiberglass				
	0.0765	0.0234	69.41	78.04
	0.0933	0.0124	86.71	
	0.1351	0.0152	88.75	
H2Orange 2 Chrome				
	0.1041	0.0214	79.44	
	0.1635	0.0240	85.32	
	0.1623	0.0209	87.12	
H2Orange 2 Ceramic				
	0.2307	0.0690	70.09	
	0.3008	0.0841	72.04	
	0.2201	0.0804	63.47	
Ecogent General All Purpose Fiberglass				
	0.6164	0.4765	22.70	58.63
	0.4267	0.1584	62.88	
	0.7449	0.3369	54.77	

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Ecogent General All Purpose Chrome				
	0.1760	0.0519	70.51	
	0.1601	0.0532	66.77	
	0.2062	0.0911	55.82	
Ecogent General All Purpose Ceramic				
	0.1630	0.0105	93.56	
	0.2493	0.1400	43.84	
	0.2058	0.0889	56.80	
SC Bathroom Cleaner Fiberglass				
	0.4781	0.2278	52.35	57.55
	0.6503	0.5207	19.93	
	0.3994	0.1945	51.30	
SC Bathroom Cleaner Chrome				
	0.1012	0.0217	78.56	
	0.4077	0.1262	69.05	
	0.1783	0.0545	69.43	
SC Bathroom Cleaner Ceramic				
	0.1806	0.0704	61.02	
	0.2919	0.1356	53.55	
	0.2693	0.1002	62.79	
PC 116 Fiberglass				
	0.1571	0.0177	88.73	87.45
	0.2406	0.0502	79.14	
	0.3768	0.1037	72.48	
PC 116 Chrome				
	0.0930	0.0070	92.47	
	0.2175	0.0073	96.64	
	0.1432	0.0044	96.93	
PC 116 Ceramic				
	0.1843	0.0357	80.63	
	0.2466	0.0219	91.12	
	0.1997	0.0221	88.93	

Summary:

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Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
EnvirOx LLC	H2Orange2	12	78.04	☐	
Cogent Environmental Solutions	Ecogent General All Purpose Cleaner	3	58.63	☐	
Gemtek Products	SC Bathroom Cleaner	100	57.55	☐	
Next-Gen Supply Group	PC 116 Non-acid restroom and shower cleaner	2	87.45	☑	

Conclusion: A second bathroom soil test will be conducted on additional products to find additional effective bathroom cleaners.