CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2014
DateRun:	11/11/2014
Experimenters:	Francisco Abreau
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #5
Substrates:	Ceramics, Plastic, Chrome
PartType:	Coupon
Contaminants:	Films, Soaps
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	To evaluate four supplied products for bathroom cleaning
Experimental Procedure:	The supplied cleaning products were used at the recommended concentration. Pre-weighed ceramic, plastic and chrome 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 handheld swab and allowed to dry for 24 hours at room temperature. The contaminated coupons were weighed again once dried 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 1-2 spray of cleaning solutions. Each coupon was sprayed 1-2 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 measured, and efficiencies were calculated and recorded.

Results:

Cleaner	Initial wt	Final wt	% Removed
H2 Orange 2 Tile - Ceramic			
	0.1940	0.0097	95.00
	0.1280	0.0084	93.44
	0.2444	0.0102	95.83
H2 Orange 2 Tile - Plastic			
	0.2124	0.0054	97.46
	0.0710	0.0038	94.65
	0.0951	0.0050	94.74
H2 Orange 2 Tile - Chrome			
	0.1275	0.0254	80.08
	0.0568	0.0089	84.33
	0.0844	0.0229	72.87
Tile Grout HC - Ceramic			
	0.1198	0.0145	87.90
	0.1647	0.0070	95.75
	0.1031	0.0023	97.77
Tile Grout HC - Plastic			
	0.0605	0.0020	96.69
	0.1124	0.0061	94.57
	0.1694	0.0109	93.57
Tile Grout HC - Chrome			
	0.1891	0.0313	83.45
	0.0990	0.0071	92.83
	0.1035	0.0050	95.17
Multi-Purp HC - Ceramic			
	0.1041	0.0200	80.79

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	0.1980	0.0684	65.45
	0.1185	0.0096	91.90
Multi-Purp HC - Plastic			
	0.1730	0.0233	86.53
	0.0947	0.0040	95.78
	0.0742	0.0006	99.19
Multi-Purp HC - Chrome			
	0.0905	0.0322	64.42
	0.2307	0.0210	90.90
	0.1234	0.0273	77.88
Neutral Floor HC - Ceramic			
	0.3551	0.0825	76.77
	0.2241	0.0385	82.82
	0.2533	0.0249	90.17
Neutral Floor HC - Plastic			
	0.3476	0.0752	78.37
	0.1037	0.0011	98.94
	0.1781	0.0019	98.93
Neutral Floor HC - Chrome			
	0.0793	0.0198	75.03
	0.2353	0.0049	97.92
	0.0598	0.0057	90.47

Summary:

Substrates:	Ceramics, Plastic, Chrome
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Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
EnvirOx LLC	H2 Orange 2 Tile	0.8	89.82	☑	
EnvirOx LLC	H2O2 Orange Tile and Grout Renovator	0.4	93.08	☑	
Fisher Scientific	Absolute Ethanol	0	0.00	☐	
EnvirOx LLC	Multi-Purpose Hyper	0.4	83.64	☐	
EnvirOx LLC	Green Certified Neutral Floor Cleaner Hyper Concentrated	0.4	87.71	☑	

Conclusion:

A cleaning product is considered effective when the efficiency of the product removes 85% of the soil and above. The most effective cleaning solution tested was the Tile Grout HC with an overall cleaning efficiency of 93.08%. The next best choice for overall cleaning efficiency was the H2 Orange 2 Tile cleaner with a cleaning efficiency of 89.82%. Next up was the Neutral Floor HC cleaner which trailed behind a little at 87.71%. The least effective cleaner that was tested was the Multi-Purpose HC cleaner which had an overall cleaning effectiveness of 83.64%.