CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2008
DateRun:	04/30/2008
Experimenters:	Jason Marshall, Shweta Bansal
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Ceramics, Plastic, Steel
PartType:	Coupon
Contaminants:	Hucker's Soil
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	To retest Do-it-Yourself formulations for bathroom cleaning.
Experimental Procedure:	The supplied cleaning products were used at the recommended concentration. Two products were included for comparison and used at its ready to use concentration. Preweighed ceramic, plastic and steel coupons were coated with Hucker's Soil Formulation (Jif Creamy Peanut Butter 9.2%, Salted Butter 9.2%, Arrowhead Mills stone ground wheat flour 9.2%, Egg Yolk 9.2%, Evaporated milk 13.8%, Distilled water 45.8%, Printer's ink with boiled linseed oil 0.9%, Shaws saline solution 2.7%) using a handheld 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. AA 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). Coupons were blotted dry with a clean Wypal wiper. Final weights were recorded, and efficiencies were calculated and recorded.
Results:	Three of the four products were effective during the retesting of the all-purpose cleaning soil, all removing over 92% of the soil.

Cleaner	Initial wt	Final wt	% Removed
Steel	0.1893	0.0024	98.73
	0.0973	0.0020	97.94
	0.2806	0.0034	98.79
Plastic	0.2608	0.0023	99.12
	0.0952	0.0013	98.63
	0.1757	0.0041	97.67
Ceramic	0.2145	0.0017	99.21
	0.1026	0.0025	97.56
	0.0651	0.0112	82.80
Steel	0.2177	0.0163	92.51
	0.2784	0.0078	97.20
	0.2608	0.0154	94.10
Plastic	0.0636	0.0108	83.02
	0.1117	0.0058	94.81
	0.1187	0.0041	96.55
Ceramic	0.1269	0.0016	98.74
	0.2035	0.0037	98.18
	0.1337	0.0299	77.64
Steel	0.2655	0.0052	98.04
	0.2762	0.0287	89.61
	0.1722	0.0041	97.62
Plastic	0.1236	0.0044	96.44
	0.1138	0.0083	92.71
	0.1767	0.0103	94.17
Ceramic	0.2307	0.0028	98.79
	0.1105	0.0032	97.10
	0.0544	0.0019	96.51
Steel	0.1696	0.1120	33.96

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	0.1564	0.2068	-32.23
	0.2224	0.2314	-4.05
Plastic	0.1265	0.0585	53.75
	0.1150	0.0478	58.43
	0.0820	0.0398	51.46
Ceramic	0.1133	0.0436	61.52
	0.2207	0.0960	56.50
	0.0403	0.0210	47.89

Summary:

Substrates:	Ceramics, Plastic, Steel
Contaminants:	Hucker's Soil

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Clorox Company	Green Works Multi-Surface Cleaner	100	96.72	☑	
Clorox Company	Green Works Glass and Surface Cleaner	100	92.53	☑	
EZ Clean Green	Natural Vinegar Cleaning Spray	100	95.66	☑	
EZ Clean Green	Natural Soft Scrub	100	36.36	☐	

Conclusion:

Three products had overall average efficiencies over 85% and would be considered effective based on the SSL testing methodology. The original results in the previous trial may have been due to base weights being incorrect prior to soiling. Results from this trial more closely matched visual observations.