CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2008
DateRun:	07/10/2008
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 evaluate three supplied products for all purpose cleaning following GS 37 requirements

Experimental Procedure:

Two of three supplied cleaning products were diluted with DI water to vendor recommended concentration for all purpose cleaning (32:1 and 128:1). The third product was prepared following the specified procedure - oxygenating cold tap water for about 10 minutes.

Preweighed ceramic, plastic G-10 and painted 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. A Kimberly-Clark Wypal reinforced paper towel 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 (~33 seconds). At the end of the cleaning, coupons were wiped once with a dry paper towel. Final weights were recorded, efficiencies were calculated and recorded.

Results:

All three products were effective at removing the glass soap scum from the three surfaces using manual wiping. The Lotus Sanitizing System resulted in the highest efficiency, removing more than 90% of the soap film. The table lists the amount of soil added, the amount remaining after cleaning and the calculated efficiency for each coupon cleaned.

Substrate	Cleaner	Initial wt	Final wt	% Removed
Ceramic	Lotus	0.1193	0.0098	91.79
		0.0842	0.0072	91.45
		0.0382	0.0094	75.39
	Pleascent	0.1373	0.0073	94.68
		0.1250	0.0152	87.84
		0.0744	0.0019	97.45
	Compass	0.2517	0.0084	96.66
		0.1124	0.0111	90.12
		0.0937	0.0062	93.38
Painted steel	Lotus	0.0760	0.0020	97.37
		0.0554	0.0021	96.21
		0.1530	0.0071	95.36
	Pleascent	0.1350	0.0156	88.44
		0.4568	0.0224	95.10
		0.1672	0.0220	86.84
	Compass	0.1943	0.0029	98.51
		0.3781	0.0067	98.23
		0.0902	0.0028	96.90
Plastic	Lotus	0.0665	0.0061	90.83
		0.0547	0.0068	87.57
		0.1252	0.0048	96.17
	Pleascent	0.1039	0.0041	96.05
		0.0599	0.0056	90.65
		0.0798	0.0046	94.24

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	Compass	0.0690	0.0011	98.41
		0.0821	0.0044	94.64
		0.0417	0.0012	97.12
Composite tile	Lotus	0.1330	0.0048	96.39
		0.0885	0.0135	84.75
		0.0282	0.0133	52.84
	Pleascent	0.0468	0.0120	74.36
		0.2268	0.0135	94.05
		0.1569	0.0056	96.43
	Compass	0.1016	0.0153	84.94
		1.0722	0.0304	97.16
		0.1332	0.0219	83.56

Summary:

Substrates:	Ceramics, Plastic, Steel				
Contaminants:	Hucker's Soil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Tersano	Lotus Sanitizing System	100	88.01	☑	
Triple S	Pleascent Neutra Shine	3.1	91.34	☑	
Triple S	Compass	0.78	94.14	☑	

Conclusion: The Lotus Sanitizing System was found to be effective for removing the Hucker's soil from various surfaces using manual wiping. It compared well to the two other cleaning products supplied for testing.