CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2008
DateRun:	04/28/2008
Experimenters:	Jason Marshall
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 supplied products for all purpose cleaning.

Experimental Procedure:

The supplied cleaning products were used at the recommended concentration (2 oz per gallon ~ 1.6%). A third product was included for comparison and used at its recommended concentration (6%).

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). 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.

Results:

One of the supplied products had an overall average efficiency greater than 85% and the other was just under this level with an 82.71% efficiency. The comparative product had an average efficiency over 88%. The removal of the soil from the ceramic surface was the most challenging for all three products. The table lists the amount of soil added and the amount remaining after cleaning and the product efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Everywhere Ceramic	0.3443	0.1017	70.46
	0.2211	0.0476	78.47
	0.4471	0.0593	86.74
Heavy Duty Ceramic	0.1717	0.0574	66.57
	0.2317	0.0670	71.08
	0.3290	0.0731	77.78
Tough Job Ceramic	0.2886	0.0501	82.64
	0.3260	0.0489	85.00
	0.3603	0.0541	84.98
Everywhere Plastic	0.3506	0.0066	98.12
	0.3717	0.0057	98.47
	0.1232	0.0041	96.67
Heavy Duty Plastic	0.3739	0.0270	92.78
	0.2750	0.0276	89.96
	0.1378	0.0076	94.48
Tough Job Plastic	0.3177	0.0319	89.96
	0.2822	0.0081	97.13
	0.2719	0.0094	96.54
Everywhere Steel	0.3872	0.0727	81.22
	0.2622	0.0442	83.14
	0.5714	0.0954	83.30

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Heavy Duty Steel	0.1597	0.0306	80.84
	0.2306	0.0354	84.65
	0.3050	0.0420	86.23
Tough Job Steel	0.1291	0.0157	87.84
	0.5706	0.0546	90.43
	0.2042	0.0407	80.07

Summary:

Substrates:	Ceramics, Plastic, Steel				
Contaminants:	Hucker's Soil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Scout Systems	Scout Everywhere	1.6	86.29	☑	
Scout Systems	Scout Heavy Duty	1.6	82.71	☐	
Rochester Midland Corporation	EnviroCare Tough Job	6	88.29	☑	

Conclusion: Two of the three products have overall average efficiencies over 85% and would be considered effective based on the SSL testing methodology.