CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2006

DateRun: 02/06/2006

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 product for all purpose cleaning application

Experimental Procedure: The supplied cleaning product was diluted with DI water to vendor recommended concentration for all purpose cleaning (10%). 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 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. Photographs were taken.

Three coupons were placed into a Gardner Straight Line Washability unit. A Professional Painter's Rag 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: The three substrates were effectively cleaned with the supplied product. The table below list the amount of soil added, the amount reaming and the efficiency for each substrate. Additional results for glass cleaning using water was also included for comparative purposes.

	Surface Material	Initial wt	Final wt	% Removed
Soil 3	Ceramic	0.3111	0.0226	92.74
		0.3663	0.0177	95.17
		0.3546	0.0311	91.23
	Plastic	0.2017	0.0025	98.76
		0.2249	0.0033	98.53
		0.6356	0.0020	99.69
	Steel	0.7503	0.0952	87.31
		0.6240	0.0443	92.90
		0.5378	0.0447	91.69

Control

Water	Steel	0.2401	0.0297	87.63
		0.4770	0.0744	84.40
		0.1596	0.0283	82.27

Summary:

Substrates:	Ceramics, Plastic, Steel				
Contaminants:	Hucker's Soil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Oxford Micelles	5009	10	94.22	☑	
Water	Water	100	84.77	☐	

Conclusion: All purpose cleaning was above the 85% cut-off for acceptable cleaning.