CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2010
DateRun:	03/12/2010
Experimenters:	Jason Marshall, Junhee Cho, Scott Nadolna
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 the supplied products for all purpose cleaning using manual cleaning.
Experimental Procedure:	The supplied cleaning products were used at the delivered concentrations. Preweighed ceramic, plastic 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 Klark 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:	All of the submitted products were effective in removing over 85% of the soil from the surface using manual cleaning. 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
md Steston PC 108 1:48_Ceramic			
	0.1523	0.0347	77.22
	0.4360	0.0516	88.17
	0.2306	0.0294	87.25
md Steston PC 108 1:48_Painted steel			
	0.1808	0.0142	92.15
	0.2879	0.0130	95.48
	0.3976	0.0135	96.60
md Steston PC 108 1:48_Plastic			
	0.2396	0.0150	93.74
	0.3982	0.0194	95.13
	0.2965	0.0019	99.36
md Steston 3Rs 1:48_Ceramic			
	0.3257	0.0439	86.52
	0.1857	0.0504	72.86
	0.2657	0.0494	81.41
md Steston 3Rs 1:48_Painted steel			
	0.5371	0.0312	94.19
	0.4014	0.0220	94.52
	0.4919	0.0230	95.32
md Steston 3Rs 1:48_Plastic			
	0.1969	0.0075	96.19

CLEANING LABORATORY EVALUATION SUMMARY

	0.3667	0.0041	98.88
	0.2987	0.0157	94.74
md Steston PC 101 1:200_Ceramic			
	0.1694	0.0416	75.44
	0.1907	0.0446	76.61
	0.2241	0.0444	80.19
md Steston PC 101 1:200_Painted steel			
	0.5027	0.0297	94.09
	0.4880	0.0232	95.25
	0.4890	0.0233	95.24
md Steston PC 101 1:200_Plastic			
	0.3839	0.0130	96.61
	0.2793	0.0259	90.73
	0.1759	0.0116	93.41
md Steston PC 220 1:128_Ceramic			
	0.1589	0.0247	84.46
	0.6021	0.0011	99.82
	0.5636	0.1495	73.47
md Steston PC 220 1:128_Painted steel			
	0.3513	0.0090	97.44
	0.1246	0.0140	88.76
	0.0761	0.0086	88.70
md Steston PC 220 1:128_Plastic			
	0.3392	0.0586	82.72
	0.2834	0.0391	86.20
	0.1758	0.0206	88.28

Summary:

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

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Next-Gen Supply Group	PC 101 Neutral and Glass Cleaner	0.5	88.62	☑	
Next-Gen Supply Group	PC 108 Spray & Wipe Cleaner	2.1	91.68	☑	
Next-Gen Supply Group	PC 220 Peroxide Multipurpose Cleaner	0.78	88.62	☑	
Next-Gen Supply Group	3R All Purpose Cleaner	2.1	87.76	☑	

Conclusion: The three products had an overall average efficiency over 85% and performed as well as the conventional cleaning product.