CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2013
DateRun:	11/04/2013
Experimenters:	Junhee Cho, Loc Nguyen
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 following GS 37 requirements
Experimental Procedure:	The two cleaning products were used at the provided dilutions at room temperature for all purpose cleaning. Preweighed ceramic, plastic and painted metal coupons were coated with Hucker's Soil Formulation (creamy peanut butter, salted butter, stone ground wheat flour, egg yolk, evaporated milk, distilled water, printer's ink with boiled linseed oil, saline solution) using a handheld swab and allowed to dry for 2 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 1-2 sprays of cleaning solutions. Each coupon was sprayed 1-2 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:	Both products removed more than 70% of the Hucker’s soil from the three surfaces using manual wiping. The Cleanovations resulted in the highest efficiency, removing just over 82% of soil. As a control water was included in testing. Water removed less than 50% of the soil under the same conditions (exception – no marble). The table lists the amount of soil added, the amount remaining after cleaning and the calculated efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Cleanovations_Marble			
	0.4733	0.0958	79.76
	0.4632	0.2271	50.97
	0.2797	0.0798	71.47
Cleanovations_Plastic			
	0.2982	0.0681	77.16
	0.4242	0.1350	68.18
	0.2770	0.0568	79.49
Cleanovations_Ceramic			
	0.2337	0.0035	98.50
	0.3718	0.0099	97.34
	0.4736	0.0360	92.40
Cleanovations_Painted metal			
	0.1905	0.0175	90.81
	0.3283	0.0143	95.64
	0.1941	0.0282	85.47
7th Generation_Marble			
	0.2934	0.1797	38.75
	0.8947	0.1670	81.33
	0.2053	0.0535	73.94
7th Generation_Plastic			
	0.4015	0.0462	88.49
	0.4319	0.1046	75.78
	0.2745	0.0523	80.95

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7th Generation_Ceramic			
	0.4933	0.2863	41.96
	0.3321	0.1313	60.46
	0.3351	0.0707	78.90
7th Generation_Painted metal			
	0.2020	0.0306	84.85
	0.2319	0.0355	84.69
	0.1204	0.0141	88.29
Water_ceramic			
	1.0789	0.7076	34.41
	0.9467	0.4993	47.26
	0.6136	0.4620	24.71
Water_plastic			
	0.6323	0.4376	30.79
	0.9849	0.5574	43.41
	0.8194	0.4008	51.09
Water_painted metal			
	1.0545	0.7027	33.36
	0.4104	0.2165	47.25
	0.3347	0.1472	56.02

Summary:

Substrates:	Ceramics, Plastic, Steel				
Contaminants:	Hucker's Soil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Amiran BioChemicals	Cleanovations All Purpose (AP) degreaser	100	82.27	☑	
Seventh Generation	Natural Glass and Surface Cleaner	100	73.20	☐	
Water	Water	100	40.92	☐	

Conclusion: Cleanovations was found to be the more effective product for removing the Hucker’s soil from various surfaces using manual wiping. It compared well to the two other cleaning products supplied for testing.