CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2014
DateRun:	04/27/2014
Experimenters:	Digvijay Devkota
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Ceramics, Plastic, Steel
PartType:	Coupon
Contaminants:	Hucker's Soil
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	The purpose of this test is to check whether the cleaners Artik, Fabuloso, and Formula 409 All Purpose Cleaner are effective in removing Huckers Soil from the surface of the Plastics, Painted Steel and Ceramic coupons or not.
Experimental Procedure:	Three coupons were placed in a Gardner Straight Line Washability unit. A Kimberly-Clark Wypal reinforced paper towel was attached to the cleaning sled and soaked with 4-6 sprays of cleaning solutions. Each coupon was sprayed 3-5 times with the same cleaning solution. The cleaning unit was run for 20 cycles (~33seconds). At the end of the cleaning; bottom part of the coupons were wiped once with a dry paper towel. Final weights were recorded, efficiencies were calculated and recorded.
Results:	The Huckers Soil was already made and was soiled in the surface of the coupons. Coupons were left for 2-3 hours to dry. Dirty weight was recorded and the coupons were cleaned using manual wipe and left overnight to dry. After cleaning, the weight was recorded and was calculated. All of the three cleaners were effective after the first round of cleaning. The percent removal was on the effective range. If looking at the average after cleaning, Artik was more effective in Plastics then Painted Steel and Ceramic. Fabuloso was effective in all the coupons but little less effective in Ceramics compared to Plastics and Painted Steel. Similarly, Formula 409 All Purpose Cleaner was more effective in Plastics and Painted Steel compared to Ceramic but for all three types of coupons they are below the range of 80 percent. The table lists the amount of soil added, the amount remaining after cleaning and the calculated efficiency for soil used.

Cleaner	Initial wt	Final wt	% Removed
Artik_Plastics_Hucker'sSoil			
	0.4860	0.0570	88.27
	0.3886	0.0846	78.23
	0.3918	0.0328	91.63
Artik_PaintedSteel_Hucker'sSoil			
	0.1977	0.0418	78.86
	0.3913	0.0572	85.38
	0.2100	0.1134	46.00
Artik_Ceramics_Hucker'sSoil			
	0.6091	0.2709	55.52
	0.4624	0.3272	29.24
	0.3078	0.1517	50.71
Fabuloso_Plastics_Hucker'sSoil			
	0.1983	0.0083	95.81
	0.1734	0.0076	95.62
	0.3870	0.0167	95.68
Fabuloso_PaintedSteel_Hucker'sSoil			
	0.2107	0.0330	84.34
	0.2498	0.0263	89.47
	0.4062	0.0728	82.08
Fabuloso_Ceramics_Hucker'sSoil			
	0.3669	0.0875	76.15
	0.3582	0.1149	67.92
	0.3830	0.0859	77.57

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Formula409_Plastics_Hucker'sSoil			
	0.3715	0.1023	72.46
	0.2791	0.1160	58.44
	0.2089	0.0048	97.70
Formula409_PaintedSteel_Hucker'sSoil			
	0.2495	0.0369	85.21
	0.1559	0.0224	85.63
	0.2809	0.1433	48.99
Formula409_Ceramics_Hucker'sSoil			
	0.2748	0.1313	52.22
	0.4087	0.2036	50.18
	0.2608	0.1165	55.33

Summary:

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

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Oresch	Artik All Purpose Cleaner	100	83.97	☑	
Clorox Company	Formula 409 All Purpose Cleaner	100	87.69	☑	
Colgate-Palmolive Company	Fabuloso	100	84.02	☑	

Conclusion: Similarly, Formula 409 All Purpose Cleaner was not effective at all on all three surfaces of the coupons. The overall performance of Artik was comparable to the Formula 409 product.