CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2024

DateRun: 04/25/2024

Experimenters: Tatyanna Moreland Junior, Amelia Wagner

ClientType: Cleaner Manufacturer

ProjectNumber: Project #1

Substrates: Ceramics, Plastic, Painted metal

PartType: Coupon

Contaminants: Hucker's Soil

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: Redo of All-purpose Hucker's Soil test to investigate outliers found previously.

Experimental Procedure: Three coupons of each substrate were used per cleaning product, for a total of 24 coupons. Each coupon was weighed using a gravimetric balance and had their weights recorded. Each coupon was then soiled with about 0.5 grams of Hucker's soil by using a swab to administer the contaminant down the center of the coupons. The contaminated coupons were then left to dry for 24 hours to allow the Hucker's soil to adhere to the coupons. After the 24 hour drying period, each coupon was weighed again, and had their 'dirty weights' recorded. The coupons were then cleaned with their respective cleaning product using the Straight Line Washability Unit (or SLW) to ensure a standard pressure is applied to each coupon while being manually wiped. Two sprays of the correct cleaner was applied to a wypall that is attached to the cleaning sled of the SLW to wipe the soil away and two sprays were applied directly to each coupon (meaning each coupon was cleaned with about 2.5 ml of cleaning chemisty). The SLW unit was run for 20 cycles (20 back and forth motions) for each coupon. Once cleaned, the coupons were allowed to air dry before having their final weights recorded

Results:

Cleaner	Substrate	Initial wt of cont.	Final wt of cont.	%Cont Removed	Average % Removal	Average Cleaner Removal
Bubbl	Ceramic	0.274	0.0087	96.82	97.66	95.19
		0.1258	0.0028	97.77		
		0.3192	0.0052	98.37		
	Plastic	0.2347	0.0177	92.46	95.76	
		0.2938	0.0109	96.29		
		0.2045	0.003	98.53		
	Painted Metal	0.1821	0.0156	91.43	92.14	
		0.3009	0.0199	93.39		
		0.3528	0.0296	91.61		
Formula 409	Ceramic	0.3858	0.0006	99.84	97.82	99.03
		0.2619	0.0018	99.31		
		0.1566	0.0089	94.32		
	Plastic	0.4288	-0.0078	101.82	99.73	
		0.812	-0.0008	100.10		
		0.1907	0.0052	97.27		
	Painted Metal	0.5296	0.0015	99.72	99.52	
		0.4362	0.0058	98.67		
		0.3277	-0.0006	100.18		
Meyers Everyday Probiotic Shower Spray	Ceramic	0.2443	0.0069	97.18	98.45	96.71
		0.2649	0.0036	98.64		
		0.3537	0.0016	99.55		
	Plastic	1.3689	0.0206	98.50	94.42	
		0.9186	0.0532	94.21		
		0.2667	0.0252	90.55		
	Painted Metal	0.2005	0.015	92.52	97.26	
		0.3485	0.0017	99.51		
		1.1094	0.0029	99.74		

Summary:

Conclusion:

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All products tested are effective in removing Hucker's soil from Ceramic, Plastic, and Painted Metal surfaces. The Bubl product performed comparatively to both comparative. products.