CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2021

DateRun: 03/11/2021

Experimenters: Nicole Kebler

ClientType: Cleaner Manufacturer

ProjectNumber: Project #1

Substrates: Ceramics, Plastic, Painted metal

PartType: Part

Contaminants: Hucker's Soil

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric, Visual

Purpose: An all-purpose test to evaluate the removal of huckers soil from ceramic, plastic, and painted metal using microfiber towels.

Experimental Procedure: Three coupons for each substrate for each cleaner, a total of 18 coupons, were pre-weighed for initial weights. Hucker's soil that was made prior to testing was distributed over the middle of the coupon and was left to air dry for 2 hours. After 2 hours, the coupons were weighed for dirty weights. The microfiber towel that was provided was cut into 6 strips that would fit the SLW machine, 1 strip for each substrate per cleaner. 3 coupons of the same substrate for each cleaner was placed in the SLW machine, the microfiber towel was sprayed 3 times per substate, per cleaner, and was run for 20 cycles/wipes. The coupons were taken out and dried for an hour. After they were dry, the final weights were recorded.

Cleaners Evaluated:

1. Pathosans
2. Formula 409

Results: Both cleaners were effective for the removal of hucker soil using a microfiber towel for all substrates. Pathosans averaged 98% for both ceramic and plastic and 97% for painted metal. Visually the coupons had full removal. Formula 409 averaged 96% for ceramic, 2% less than Pathosans, and 97% for painted metal. The plastic substrate averaged 100.9, two of the 3 coupons were under 100, but one was above. This could be due to the coupon having leftover soil on the coupon prior to the initial weights. Visually all coupons were clean with minimal soil left.

Cleaner	Substrate	Initial wt of cont.	Final wt of cont.	Cont. Removed	Average
Pathosans	Ceramic	0.0635	0.0013	97.95	98.29
		0.0991	0.0016	98.39	
		0.0751	0.0011	98.54	
	Plastic	0.1486	0.0058	96.10	98.06
		0.1440	0.0021	98.54	
		0.1539	0.0007	99.55	
	Painted Metal	0.1901	0.0044	97.69	97.23
		0.1688	0.0045	97.33	
		0.1261	0.0042	96.67	
Formula 409	Ceramic	0.0584	0.0029	95.03	96.82
		0.0786	0.0022	97.20	
		0.1121	0.002	98.22	
	Plastic	0.1418	0.0049	96.54	100.94
		0.1866	-0.0122	106.54	
		0.1534	0.0004	99.74	
	Painted Metal	0.1525	0.0036	97.64	97.02
		0.1440	0.0041	97.15	
		0.0967	0.0036	96.28	

Summary:

Substrates:	Ceramics, Plastic, Painted metal				
Contaminants:	Hucker's Soil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**

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PathoSans	PathoClean	100%	97.00	☑	PathoSans was effective for the removal of hucker's soil from ceramic, plastic, and painted metal.
Clorox Company	Formula 409 All Purpose Cleaner	100%	96.00	☑	Formula 409 was effective for the removal of hucker's soil from ceramic, plastic, and painted metal.

Conclusion: Both cleaners were effective for the removal of hucker's soil from all three substrates.