CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2021

DateRun: 08/22/2021

Experimenters: Nicole Kebler, Edward Judge

ClientType: Cleaner Manufacturer

ProjectNumber: Project #2

Substrates: Ceramics, Plastic, Painted metal

PartType: Coupon

Contaminants: Hucker's Soil

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric, Visual

Purpose: To evaluate the effectiveness of Amazon Aware All-Purpose Cleaner in the removal of Hucker's Soil from ceramic, plastic, and painted metal substrates.

Experimental Procedure: An Amazon Aware All-Purpose Cleaner solution was created by mixing 2 tablets with 16 fl oz of water, and a Formula 409 solution was gathered for comparison. Then, 3 coupons of each substrate (ceramic, plastic, painted metal) were collected and initial weights were taken. Hucker's Soil was applied to each coupon and allowed to air dry for 2 hours. After the 2-hour dry time, the weights of the newly contaminated coupons were measured. All coupons were placed into a Gardner-scrub Abrasion Tester machine. Wypall cleaning cloths were attached to each of the 3 cleaning blocks used for the test. Each Wypall cloth and all coupons received 2 sprays of the Amazon Aware All Purpose Cleaner solution or the Formula 409 solution, and the Gardner-scrub Abrasion Tester was run for 20 repetitions, simulating 20 manual wipes. Once cleaning concluded, the cleaned coupons were allowed to air dry for 24 hours. After 24 hours, the weights of the cleaned coupons were measured.

Cleaner:

A: Amazon Aware All-Purpose Cleaner

B: Formula 409

Substrates:

1. Ceramic
2. Plastic
3. Painted metal

Results:

Cleaner	Substrate	Initial wt. of cont.	Final wt. of cont.	%Cont. Removed	% Average	% Overall
A	1	0.3141	0.0230	92.68	88.81	91.28
		0.2665	0.0307	88.48		
		0.2842	0.0629	77.87		
	2	0.3565	0.0135	96.21	94.19	
		0.3542	0.0238	93.28		
		0.3214	0.0223	93.06		
	3	0.2873	0.0328	88.58	90.83	
		0.5073	0.0376	92.59		
		0.4830	0.0419	91.33		
B	1	0.2636	0.0257	90.25	79.29	87.85
		0.2510	0.0632	74.82		
		0.3694	0.1643	55.52		
	2	0.5473	0.0187	96.58	93.67	
		0.3471	0.0315	90.92		
		0.3474	0.0226	93.49		
	3	0.3670	0.0477	87.00	90.58	
		0.5246	0.0388	92.60		
		0.5882	0.0462	92.15		

Amazon Aware All-Purpose had an overall removal percentage of 91%, whereas Formula 409 had an overall percentage removed of 88%.

Summary:

Substrates:	Ceramics, Plastic, Painted metal

CLEANING LABORATORY EVALUATION SUMMARY

Contaminants:	Hucker's Soil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Sunstate Laboratory LLC	Sunstate All Purpose Cleaner Tablet	2 tablets in 16 fl oz	91.00	☑	Amazon Aware (Sunstate) All-Purpose Cleaner was effective at removing soil from all three substrates.
Clorox Company	Formula 409 All Purpose Cleaner	RTU	87.00	☑	Formula 409 was effective for the removal of soil from all three substrates at 87% effectiveness.

Conclusion: Amazon Aware All-Purpose Cleaner was more effective in the removal of Hucker's Soil from ceramic, plastic, and painted metal substrates than the comparison product.