CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2021

DateRun: 07/27/2021

Experimenters: Ross Goding, Edward Judge, Anjali Bhagat

ClientType: Lab

ProjectNumber: Project #4

Substrates: Ceramics, Plastic, Painted metal

PartType: Coupon

Contaminants: Hucker's Soil

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric, Visual

Purpose: To test the effectiveness of Baking Soda in the removal of Hucker's Soil from various substrates.

Experimental Procedure: Baking Soda and water were gathered to begin testing. Then, 3 coupons of each substrate (ceramic, plastic, painted metal) were collected and initial weights were taken. Hucker's Soil (Creamy Peanut Butter, Salted Butter, Wheat gluten, Egg Yolk, Evaporated milk, DI water, Printer's ink with boiled linseed oil, India Ink, Saline Solution) 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 was given 2 sprays of water, and all coupons received 2 sprays of water with Baking Soda sprinkled on each one. 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.

Results:

Cleaner	Substrate	Initial wt of cont.	Final wt of cont.	%Cont Removed	% AVG	% Overall
Baking Soda	Ceramic	0.8686	0.1632	81.21	83.17	87.53
		0.6256	0.1038	83.41		
		0.7073	0.0896	87.33		
	Plastic	1.7621	0.3393	80.74	88.60	
		1.8005	0.1700	90.56		
		2.8636	0.1578	94.49		
	Painted Metal	1.7160	0.4265	75.15	90.82	
		3.4254	0.0334	99.02		
		3.5918	0.0614	98.29		

Summary:

Substrates:	Ceramics, Plastic, Painted metal				
Contaminants:	Hucker's Soil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Arm & Hammer	Baking Soda	100%	87.53	☑	Baking Soda was effective in the removal of Hucker's Soil from various substrates.

Conclusion: Baking Soda was effective in the removal of Hucker's Soil from ceramic, plastic, and painted metal substrates.