CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2021

DateRun: 07/13/2021

Experimenters: Ross Goding, Edward Judge

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 Clorox Liquid Bleach in the removal of Hucker's Soil from various substrates.

Experimental Procedure: A Clorox Liquid Bleach solution was created by mixing 4 (mL) parts liquid bleach and 192 (mL) parts water. 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 and all coupons received 2 sprays of the Clorox Liquid Bleach 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.

Results:

Cleaner	Substrate	Initial wt of cont.	Final wt of cont.	%Cont Removed	% AVG	% Overall
Clorox Liquid Bleach	Ceramic	0.1420	0.0010	99.30	92.23	89.48
		0.1737	0.0028	98.39		
		0.1974	0.0528	73.25		
	Plastic	0.3904	0.0079	97.98	83.46	
		0.4051	0.0071	98.25		
		0.3577	0.1640	54.15		
	Painted Metal	0.3207	0.0082	97.44	92.75	
		0.2871	0.0170	94.08		
		0.6383	0.0848	86.71		

Summary:

Substrates:	Ceramics, Plastic, Painted metal				
Contaminants:	Hucker's Soil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Clorox Company	Clorox Bleach	1/48	89.48	☑	Clorox Liquid Bleach was effective in the removal of Hucker's Soil from various substrates.

Conclusion: Clorox Liquid Bleach was effective in removing Hucker's Soil from ceramic, plastic, and painted metal substrates.