CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2020

DateRun: 10/21/2020

Experimenters: Zoe Lawson, Ross Goding

ClientType:

ProjectNumber: Project #1

Substrates: Ceramics, Plastic, Painted metal

PartType: Coupon

Contaminants: Hucker's Soil

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: To test two all-purpose cleaners on their effectiveness to remove Hucker's Soil from painted steel, ceramic, and plastic coupons.

Experimental Procedure: Nine pre-weighed coupons per cleaner, three of each substrate, were contaminated with one gram of Hucker's Soil Formulation (Jiff Creamy Peanut Butter 9.2%, Salted Butter 9.2%, Arrowhead Mills stone-ground wheat flour 9.2%, Egg Yolk 9.2%, Evaporated milk 13.8%, Distilled water 45.8%, Printer's ink with boiled linseed oil 0.9%, Shaws saline Solution 2.7%) using a handheld swab and dried for two hours at room temperature (68 F). The contaminated coupons were weighed before placing three coupons per cleaner of the same substrate into a Gardner Straight Line Washability (SLW) unit. A Kimberly-Clark Wypal reinforced paper towel was attached to the cleaning sled. The Wypal and each coupon were treated with three sprays and cleaned for 20 cycles (~30 seconds of cleaning). Clean coupons dried for 24 hours before final weights were taken.

Results:

Cleaner	Substrate	Initial wt.	Final wt.	% Removed	Overall Average
Elcove All-Purpose Cleaner	Painted Steel	0.0463	0.0014	96.98	94.40
		0.0667	0.0010	98.50	
		0.0924	0.0041	95.56	
	Ceramic	0.1476	0.0074	94.99	
		0.0953	0.0045	95.28	
		0.0811	0.0075	90.75	
	Plastic	0.0894	0.0067	92.51	
		0.1385	0.0099	92.85	
		0.1046	0.0082	92.16	
Better Life All-Purpose Cleaner	Painted Steel	0.3456	0.0013	99.62	93.72
		0.1096	0.0066	93.98	
		0.0664	0.0053	92.02	
	Ceramic	0.2041	0.0042	97.94	
		0.1812	0.0045	97.52	
		0.0953	0.0104	89.09	
	Plastic	0.1170	0.0072	93.85	
		0.1582	0.0073	95.39	
		0.1567	0.0249	84.11	

Summary:

Substrates:	Ceramics, Plastic, Painted metal				
Contaminants:	Hucker's Soil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Elcove	All-Purpose Cleaner	100%	94.40	☑	
Better Life	All-Purpose Cleaner	100%	93.72	☑	

Conclusion: Elcove All-Purpose Cleaner was more effective than Better Life All-Purpose Cleaner at removing Hucker's Soil from painted steel, ceramic, and plastic.