

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2023

DateRun: 09/15/2023

Experimenters: Amelia Wagner

Client Name: Green Mountain Amenities

ClientType: Cleaner Manufacturer

ProjectNumber: Project #1

Substrates: Ceramics, Plastic, Painted metal

PartType: Coupon

Contaminants: Hucker's Soil

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: To test the efficacy of Green Mountain Amenities Citric Acid and Washing Soda All Purpose cleaner and Etee All Purpose cleaner against other all purpose cleaners on the market.

Experimental Procedure: Eighteen pre-weighed coupons per cleaner, three of each substrate, were contaminated with 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	Coupon	Initial wt of cont.	Final wt of cont.	%Cont Removed	% AVG	% Overall
	Simple Green	Ceramic	0.488	0.1848	62.15	77.77	85.92
			0.490	0.0031	99.37		
			0.482	0.1362	71.78		
		Painted Metal	0.447	0.0152	96.6	97.56	
			0.508	0.0142	97.21		
			0.43	0.0049	98.86		
		Plastic	0.532	0.1379	74.08	82.44	
			0.571	0.1004	82.44		
			0.570	0.0524	90.81		
	Nine Elements multipurpose	Ceramic	0.494	0.0013	99.74	99.83	94.52
			0.525	0.0007	99.87		
			0.501	0.0006	99.88		
		Painted Metal	0.454	0.0356	92.17	84.5	
			0.445	0.0214	95.2		
			0.504	0.1709	66.13		
		Plastic	0.488	0.0045	99.08	99.23	
			0.508	0.0028	99.45		
			0.570	0.0047	99.18		
	Oasis All Purpose	Ceramic	0.500	0.1271	74.6	85.7	93.33
			0.545	0.0108	98.02		
			0.551	0.0856	84.48		
		Painted Metal	0.562	0.015	97.33	97.54	
			0.469	0.0125	97.34		
			0.529	0.0109	97.94		
		Plastic	0.512	0.003	99.41	96.76	
			0.490	0.0045	100.92		
			0.528	0.0531	89.95		
	Grove All Purpose	Ceramic	0.435	0.0209	95.2	99.58	95.36
			0.494	0.0091	101.84		

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		0.5517-0.0094	101.7		
	Painted	0.53180.0249	95.32	92.96	
	Metal	0.47910.0449	90.63		
		0.49850.0352	92.94		
	Plastic	0.55410.0287	94.82	93.55	
		0.51820.0407	92.15		
		0.54790.0346	93.68		
GMA Citric	Ceramic	0.50920.0146	97.13	94.92	93.23
Acid +		0.51530.0049	99.05		
Washing		0.52660.0602	88.57		
Soda	Painted	0.52670.0381	92.77	94.43	
	Metal	0.50850.0263	94.83		
		0.54450.0234	95.7		
	Plastic	0.56180.0981	82.54	90.33	
		0.5298 0.025	95.28		
		0.488 0.0333	93.18		

Summary:

Conclusion:

GMA cleaners are effective cleaners. The Citric Acid and Washing Soda Cleaner performed equal to/better than two of the comparative products.