CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2020

DateRun: 11/18/2020

Experimenters: Nicole Kebler

ClientType: Cleaner Manufacturer

ProjectNumber: Project #10

Substrates: Ceramics, Painted metal

PartType: Coupon

Contaminants: Hucker's Soil

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric, Visual

Purpose: To re-test the effectiveness of EnvirOx Storm against Green Works AP for all-purpose cleaning.

Experimental Procedure: All ceramic, plastic and painted metal coupons were pre-weighed and had 0.5 g of Hucker's soil (44.2% Distilled water, 13.5% Evaporated milk, 8.8% Salted butter, 8.8% Stone ground wheat flour, 8.8% Egg yolk, 0.9% Printer's ink with boiled linseed oil, 2.7% Saline solution, 3.5% India ink) distributed onto each coupon. The dirty weights were recorded after the coupons had dried for two hours at room temperature (68°F). Three coupons of the same substrate were aligned into a Single Line Washing Unit (SLW) with Wypall X60 attached to the cleaning sled. The Wypall X60 reinforced wipe along with the coupons were all sprayed three times with the cleaner and then allowed to soak for 30 seconds. Afterward, the Single Line Washing Unit (SLW) was activated and cleaned for 20 cycles. The clean coupons were all then allowed to dry overnight at room temperature before the final weights were recorded.

Results: EnvirOx Storm had a higher percentage of removal for ceramic and painted steel when compared to Green Works AP and slightly higher than the previous test. Painted steel had an average of 90% removal and visually there were small amounts of soil left on the coupon after 20 wipes. Ceramic for EnvirOx Storm had an average of 85% removal and some soil was left on the surface of the coupon. Removal of soil on plastic coupons was the same as the previous test with an average of 82% removal; although this was less percentage removal than Green Works which has 89% removal, visually both coupons looked to have the same amount of soil left on the surface. Green Works AP was not effective when removing soil from ceramic and painted steel and averaged 57% and 67% removal respectively.

Product	Substrate	Initial wt	Final Wt	% Removal	Average
EnvirOx Storm	Ceramic	0.1939	0.0359	81.49	85.08
		0.1811	0.0374	79.35	
		0.1611	0.0090	94.41	
	Plastic	0.1476	0.0096	93.50	81.54
		0.2046	0.0631	69.16	
		0.1531	0.0276	81.97	
	Painted Steel	0.1730	0.0152	91.21	90.93
		0.1884	0.0201	89.33	
		0.1602	0.0124	92.26	
Green Works AP	Ceramic	0.1499	0.0903	39.76	57.81
		0.1558	0.0703	54.88	
		0.1689	0.0358	78.80	
	Plastic	0.3065	0.0390	87.28	89.99
		0.2279	0.0132	94.21	
		0.2128	0.0245	88.49	
	Painted Steel	0.1859	0.0456	75.47	67.28
		0.1628	0.0575	64.68	
		0.1633	0.0626	61.68	

Summary:

Conclusion: EnvirOx Storm was effective for the removal of Hucker's soil on ceramic, plastic, and painted steel substrates. Green Works AP was effective for the removal of Hucker's soil on plastic, and performed slightly better than EnvirOx but was not effective for ceramic and painted steel.