CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2020

DateRun: 08/09/2020

Experimenters: Justin Kiander

ClientType: Cleaner Manufacturer

ProjectNumber: Project #10

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 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. Afterwards 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:

Cleaner	Substrate	Coupon	Initial wt. of cont.	Final wt. cont.	% Cont. Removed	Average
EnvirOx Storm	Ceramic	1	0.1478	0.0398	73.07	70.37
		2	0.2292	0.0431	81.20	
		3	0.174	0.0751	56.84	
	Plastic	1	0.7991	0.0608	92.39	86.98
		7	0.6063	0.0622	89.74	
		9	0.4798	0.1017	78.80	
	Painted Steel	1	0.3243	0.0732	77.43	76.37
		2	1.0027	0.0539	94.62	
		3	0.5248	0.2254	57.05	
Green Works AP	Ceramic	4	0.4534	0.0456	89.94	67.59
		5	0.3675	0.0454	87.65	
		6	0.2709	0.2027	25.18	
	Plastic	19	0.537	0.072	86.59	90.02
		41	0.3237	-0.0115	103.55	
		47	0.6953	0.1397	79.91	
	Painted Steel	4	0.3272	0.0567	82.67	73.16
		5	0.4788	0.0462	90.35	
		6	1.0404	0.557	46.46	

Summary:

Substrates:	Ceramics, Plastic, Painted metal				
Contaminants:	Hucker's Soil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
EnvirOx LLC	EnvirOx Storm	100	77.91	☑	
Clorox Company	Green Works General Purpose Cleaner Concentrate	100	77.12	☑	

Conclusion: The EnvirOX Storm in comparison to Green Works AP, did remove more from the ceramic and painted steel surfaces, but not by a significant margin. Overall, both cleaners were only effective in the removal of the containment on plastic coupons and preformed very similar to each other on all three substrates.