CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2024

DateRun: 04/30/2024

Experimenters: Amelia Wagner

ClientType: Cleaner Manufacturer

ProjectNumber: Project #1

Substrates: Aluminum, Plastic, Stainless Steel

PartType: Part

Contaminants: Hucker's Soil

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: All-purpose test to determine the efficacy of the GeoPro X product in removing Hucker's soil from a variety of substrates compared to other janitorial and industrial degreasing products. Rerun of previous test using a higher concentration of GeoPro X to see if the higher concentration leads to a higher efficacy.

Experimental Procedure: Three coupons of each substrate were used per cleaning product, for a total of 24 coupons. Each coupon was weighed using a gravimetric balance and had their weights recorded. Each coupon was then soiled with about 0.5 grams of Hucker's soil by using a swab to administer the contaminant down the center of the coupons. The contaminated coupons were then left to dry for 24 hours to allow the Hucker's soil to adhere to the coupons. After the 24 hour drying period, each coupon was weighed again, and had their 'dirty weights' recorded. The coupons were then cleaned with their respective cleaning product using the Straight Line Washability Unit (or SLW) to ensure a standard pressure is applied to each coupon while being manually wiped. Two sprays of the correct cleaner was applied to a wypall that is attached to the cleaning sled of the SLW to wipe the soil away and two sprays were applied directly to each coupon (meaning each coupon was cleaned with about 2.5 ml of cleaning chemistry). The SLW unit was run for 20 cycles (20 back and forth motions) for each coupon. Once cleaned, the coupons were allowed to air dry before having their final weights recorded.

Results:

Cleaner	Substrate	Initial wt of cont.	Final wt of cont.	%Cont Removed	AVG % Removed	Overall % Removed
GeoPro X 3%	Aluminum	0.1575	0.0104	93.40	95.08	97.11
		0.2291	0.0052	97.73		
		0.1749	0.0103	94.11		
	Fiberglass	0.3796	0.0052	98.63	98.61	
		0.4643	0.0064	98.62		
		0.3625	0.0051	98.59		
	Stainless Steel	0.5256	0.0148	97.18	97.64	
		0.4862	0.0119	97.55		
		0.5797	0.0106	98.17		
Formula 409 RTU	Aluminum	0.1559	0.0188	87.94	92.91	94.34
		0.4339	0.0119	97.26		
		0.4282	0.0277	93.53		
	Fiberglass	0.3126	0.0105	96.64	95.93	
		0.6043	0.0163	97.30		
		0.3812	0.0235	93.84		
	Stainless Steel	0.5731	0.0276	95.18	94.17	
		0.3451	0.0273	92.09		
		0.3630	0.0173	95.23		
Polychem Deox 007 1:7	Aluminum	0.1597	0.0212	86.73	91.79	94.25
		0.4067	0.0172	95.77		
		0.2663	0.0190	92.87		
	Fiberglass	0.4788	0.0116	97.58	96.65	
		0.5360	0.0202	96.23		
		0.6962	0.0268	96.15		
	Stainless Steel	0.8284	0.0401	95.16	94.30	
		0.5107	0.0370	92.76		
		0.6331	0.0317	94.99		

Summary:

CLEANING LABORATORY EVALUATION SUMMARY

Substrates:	Aluminum, Plastic, Stainless Steel				
Contaminants:	Hucker's Soil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
AquOm Inc	GeoProX	3%	97.11	☑	
Clorox Company	Formula 409 All Purpose Cleaner	RTU	94.34	☑	
US Polychem Corporation	Polychem DEOX 007	12.5%	94.25	☑	

Conclusion: All products performed comparatively and are highly effective in removing Hucker's soil from Aluminum, Fiberglass, and Stainless Steel.