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: Coupon

Contaminants: Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: All-purpose test to determine the efficacy of the GeoPro X product in removing GS 34 standard production 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 GS 34 Production 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. 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	0.0444	0.0032	92.79	91.29	95.75
		0.0613	0.0066	89.23		
		0.1350	0.0110	91.85		
	Plastic	0.1973	0.0012	99.39	98.26	
		0.1345	0.0048	96.43		
		0.1334	0.0014	98.95		
	Stainless Steel	0.1286	0.0027	97.90	97.71	
		0.1579	0.0016	98.99		
		0.0982	0.0037	96.23		
Formula 409 RTU	Aluminum	0.1625	0.0061	96.25	94.22	96.19
		0.0958	0.0041	95.72		
		0.1815	0.0169	90.69		
	Plastic	0.1650	0.0051	96.91	97.93	
		0.1754	0.0032	98.18		
		0.1628	0.0021	98.71		
	Stainless Steel	0.1225	0.0051	95.84	96.42	
		0.1368	0.0041	97.00		
		0.1646	0.0059	96.42		
Polychem Deox 007 1:7	Aluminum	0.1002	0.0034	96.61	97.13	96.55
		0.2362	0.0045	98.10		
		0.1204	0.0040	96.68		
	Plastic	0.1738	0.0066	96.20	95.97	
		0.1162	0.0052	95.53		
		0.1543	0.0059	96.18		
	Stainless Steel	0.1855	0.0030	98.38	96.56	
		0.0398	0.0028	92.96		
		0.1028	0.0017	98.35		

Summary:

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Substrates:	Aluminum, Plastic, Stainless Steel
Contaminants:	Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
AquOm Inc	GeoProX	3%	95.75	☑	
Clorox Company	Formula 409 All Purpose Cleaner	RTU	96.19	☑	
US Polychem Corporation	Polychem DEOX 007	12.5%	96.55	☑	

Conclusion: All products performed comparatively and are highly effective in removing GS 34 standard production soil from Aluminum, Plastic, and Stainless Steel.