CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2024
DateRun:	04/25/2024
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.
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:

Product	Coupon Type	Initial wt of cont.	Final wt of cont.	%Cont Removed	AVG percent removal	AVG Overall Removal
GeoPro X 1.5%	Aluminum	0.0640	0.0027	95.78	95.22	94.86
		0.1110	0.0070	93.69		
		0.1645	0.0063	96.17		
	Plastic	0.2239	0.0076	96.61	93.41	
		0.2169	0.0169	92.21		
		0.2236	0.0192	91.41		
	Stainless Steel	0.2198	0.0126	94.27	95.95	
		0.2334	0.0071	96.96		
		0.2202	0.0074	96.64		
Formula 409 RTU	Aluminum	0.2057	0.0124	93.97	95.03	94.19
		0.1640	0.0076	95.37		
		0.2929	0.0124	95.77		
	Plastic	0.2928	0.0231	92.11	92.05	
		0.1786	0.0138	92.27		
		0.2208	0.0182	91.76		
	Stainless Steel	0.1936	0.0068	96.49	95.48	
		0.1848	0.0101	94.53		
		0.1769	0.0081	95.42		
Polychem Deox 007 1:7	Aluminum	0.1850	0.0114	93.84	92.63	92.84
		0.2052	0.0058	97.17		
		0.0952	0.0125	86.87		
	Plastic	0.1852	0.0165	91.09	90.60	
		0.2454	0.0329	86.59		
		0.2582	0.0152	94.11		
	Stainless Steel	0.2179	0.0093	95.73	95.30	
		0.2077	0.0068	96.73		
		0.2512	0.0165	93.43		

Summary:

Substrates:	Aluminum, Plastic, Stainless Steel

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Contaminants:	Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
AquOm Inc	GeoProX	1.5%	94.86	☑	
Clorox Company	Formula 409 All Purpose Cleaner	RTU	94.19	☑	
US Polychem Corporation	Polychem DEOX 007	12.5%	92.84	☑	

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