CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2016
DateRun:	04/05/2016
Experimenters:	Carla De La Cruz, Austin Buda
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Ceramics, Plastic, White Board
PartType:	Coupon
Contaminants:	Hucker's Soil
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	To compare and test the removal efficiency of an all purpose soil on various substrates using Logo Technologies products and comparative product.
Experimental Procedure:	Nine coupons per cleaner on three different substrates (ceramic, plastic and painted steel) were set up in rows of three on a tray. Initial weights were taken of all three substrates and immediately soiled with about 0.5g of Hucker's soil. They were allowed to dry for two hours before recording the dirty weights of the coupons. Three coupons of a single substrate were placed into a Gardner Straight Line Washability unit at a time. A Wypall X60 reinforced wipe was attached to the cleaning sled and treated with two sprays of cleaning solutions. Each coupon was sprayed two times with the same cleaning solution. The solution was allowed to penetrate for 30 seconds followed by cleaning in the SLW unit for 20 cycles (~30 seconds). At the end of the cleaning, final weights were recorded and efficiencies recorded.
Results:	The Logo Technologies products had a wide range of percent efficiency to the comparative product, Kaboom. However, when the standard deviation for each cleaner was calculated for, all of the products fell within a similar confidence interval range. Therefore, all of the products could be considered effective.

Cleaner	Substrate	Initial wt of cont.	Final wt of cont.	%Cont Removed	% Efficiency
NatSurFact A	Ceramic	0.5323	0.2375	55.38	72.32
		0.2271	0.0890	60.81	
		0.8119	0.3850	52.58	
	Plastic	0.2191	0.0262	88.04	
		0.2418	0.0139	94.25	
		0.2673	0.0526	80.32	
	Painted Steel	0.2416	0.0825	65.85	
		0.2584	0.0226	91.25	
		0.2548	0.0958	62.40	
NatSurFact B	Ceramic	0.2141	0.0371	82.67	79.42
		0.4925	0.0941	80.89	
		0.4273	0.2398	43.88	
	Plastic	0.3217	0.0109	96.61	
		0.3266	0.0047	98.56	
		0.2549	0.0471	81.52	
	Painted Steel	0.2739	0.0560	79.55	
		0.2286	0.0329	85.61	
		0.2661	0.0918	65.50	
NatSurFact C	Ceramic	0.2422	0.0040	98.35	74.92
		0.2604	0.0290	88.86	
		0.4451	0.1939	56.44	
	Plastic	0.2752	0.0808	70.64	
		0.3001	0.0713	76.24	
		0.3013	0.0403	86.62	
	Painted Steel	0.2376	0.1431	39.77	
		0.3018	0.0233	92.28	
		0.3023	0.1055	65.10	
NatSurFact D	Ceramic	0.4888	0.3220	34.12	71.53

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		0.3793	0.1688	55.50	
		0.1603	0.0039	97.57	
	Plastic	0.2672	0.0612	77.10	
		0.1955	0.0054	97.24	
		0.2562	0.0477	81.38	
	Painted Steel	0.2669	0.1123	57.92	
		0.2476	0.0625	74.76	
		0.2738	0.0872	68.15	
Kaboom	Ceramic	0.5611	0.0092	98.36	87.49
		0.3047	0.0226	92.58	
		0.3831	0.0466	87.84	
	Plastic	0.2790	0.0905	67.56	
		0.2021	0.0605	70.06	
		0.2581	0.0167	93.53	
	Painted Steel	0.2606	0.0208	92.02	
		0.2184	0.0223	89.79	
		0.2959	0.0128	95.67	

Summary:

Substrates:	Ceramics, Plastic, White Board
Contaminants:	Hucker's Soil

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Fisher Scientific	Absolute Ethanol	0	0.00	☐	
Logos Technologies	NatSurFact A	100	72.32	☐	
Fisher Scientific	Absolute Ethanol	0	0.00	☐	
Logos Technologies	NatSurFact B	100	79.42	☐	
Logos Technologies	NatSurFact C	100	74.92	☐	
Logos Technologies	NatSurFact D	100	71.53	☐	
Church & Dwight Co Inc.	Kaboom Oxiclean Stain Fighters	100	87.49	☑	

Conclusion:

In conclusion, the NatSurFact products performed fairly well, with efficiencies in the 70's. The best of them was NatSurFact B which did have an efficiency of 79.42%. The Kaboom product was found to perform better than any of the NatSurFact products with an efficiency of about 87.49% overall, but standard deviation calculations showed all the products tested fell within the same range of effectiveness.