CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2020
DateRun:	02/18/2020
Experimenters:	Aditi Patel, Hannah Ritchie
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Plastic, Chrome, Painted metal
PartType:	Coupon
Contaminants:	Hucker's Soil
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	To evaluate the effectiveness of Culleoka Natural Based Cleaner to comparative products at removing Hucker's soil from various substrates
Experimental Procedure:	Sixty-three pre-weighed coupons, three per substrate for each cleaner, was contaminated with 0.05 grams of Hucker's soil (Evaporated Milk; 26.5%, Creamy Peanut Butter; 17%, Salted Butter; 17%, Stone Ground Wheat Flour; 17%, Linseed Oil; 2.25%, Saline Solution; 5.25%, India Ink; 6.8%, Lemon Juice; 8.2%) for each coupon. Coupons aged for two hours at room temperature (68°F) before dirty weights were recorded. Coupons of the same substrate were placed into the Straight-Line Washability (SLW) unit, three at time, and treated once with the cleaner. A Wypall was attached to the SLW sled and treated twice with the cleaner. Each test ran 20 cycles (~30 seconds of cleaning). Coupons air-dried at room temperature (68°F) for one hour before final weights were recorded.

Results:

Cleaner	Substrate	Initial wt. of Cont.	Final wt. Cont.	% Cont. Removed	Average% Removal	Overall % Removal
A	1	0.2190	0.0229	89.54	89.52	92.53
		0.1066	0.0107	89.96		
		0.1104	0.0121	89.04		
	2	0.0803	0.0072	91.03	93.34	
		0.0778	0.0056	92.80		
		0.2465	0.0094	96.19		
	3	0.4392	0.0416	90.53	94.75	
		0.4410	0.0116	97.37		
		0.3994	0.0146	96.34		
B	1	0.1298	0.0429	66.95	67.23	77.92
		0.2037	0.0844	58.57		
		0.1175	0.0280	76.17		
	2	0.1128	0.0187	83.42	74.52	
		0.0805	0.0246	69.44		
		0.1775	0.0520	70.70		
	3	0.4349	0.0324	92.55	92.00	
		0.4696	0.0336	92.84		
		0.4364	0.0410	90.60		
C	1	0.1203	0.0257	78.64	81.53	79.77
		0.2397	0.0223	90.70		
		0.1548	0.0383	75.26		
	2	0.2296	0.1044	54.53	64.87	
		0.1529	0.0442	71.09		
		0.2461	0.0763	69.00		
	3	0.4698	0.0242	94.85	92.92	
		0.4522	0.0140	96.90		
		0.4870	0.0633	87.00		
D	1	0.6981	0.0746	89.31	84.94	91.53
		0.6619	0.1012	84.71		
		0.4717	0.0906	80.79		
	2	0.4060	0.0238	94.14	92.68	

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		0.3994	0.0434	89.13		
		0.4867	0.0255	94.76		
	3	0.3815	0.0133	96.51	96.97	
		0.4094	0.0117	97.14		
		0.3469	0.0095	97.26		
E	1	0.4101	0.0176	95.71	95.75	88.89
		0.6144	0.1083	82.37		
		0.3679	-0.0337	109.16		
	2	0.3491	0.0834	76.11	74.39	
		0.2846	0.0962	66.20		
		0.4472	0.0856	80.86		
	3	0.3860	0.0102	97.36	96.52	
		0.3995	0.0108	97.30		
		0.3834	0.0195	94.91		
F	1	0.4972	0.0356	92.84	92.51	88.24
		0.6377	0.0529	91.70		
		0.4298	0.0301	93.00		
	2	0.6216	0.0618	90.06	75.43	
		0.3776	0.0973	74.23		
		0.2950	0.1121	62.00		
	3	0.3893	0.0110	97.17	96.79	
		0.4357	0.0145	96.67		
		0.4025	0.0140	96.52		

Summary:

Substrates:	Plastic, Chrome, Painted metal
Contaminants:	Hucker's Soil

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Culleoka Co	Culleoka Natrual Based Cleaner	100	92.53	☑	
Method	Method All-Purpose Cleaner	100	77.92	☐	
Seventh Generation	All Purpose Morning Meadow	100	79.71	☐	
Clorox Company	Green Works Multi-Surface Cleaner	100	91.53	☑	
Mrs Myers Clean Day	Mrs Meyers Lemon Multisurface Cleaner	100	88.89	☑	
Annie's Pure and Simple	Annie's Pure and Simple All Purpose Cleaner - Pink Grapefruit	100	88.24	☑	

Conclusion: Culleoka Natural Based Cleaner was the most effective cleaner at removing Hucker’s Soil from ceramic, plastic, and painted metal.