CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2007

DateRun: 10/11/2007

Experimenters: Jason Marshall, Shweta Bansal

ClientType: Cleaner Manufacturer

ProjectNumber: Project #1

Substrates: Ceramics, Fiberglass, Chrome

PartType: Coupon

Contaminants: Films, Soaps

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: To evaluate supplied products for bathroom cleaning on three substrates.

Experimental Procedure: The supplied cleaning products were used at full strength.

Preweighed fiberglass, ceramic and chrome coupons were coated with SSL Soil 1 (Bathroom soap scum: Vaseline Dry Skin Lotion 21.4%, Dial Clean Rinsing Body Wash 14.3%, Market Basket Shampoo & Conditioner (Pert) 28.6%, Soft Soap Natural Liquid hand soap 21.4%, Coast Deodorant bar soap 7.2% and Water 7.1%) using a hand held swab and allowed to dry for 24 hours at room temperature. The contaminated coupons were weighed again to determine the amount of soil added.

Three coupons were placed into a Gardner Straight Line Washability unit. A Kimberly-Clark WypAll X60 reinforced wipe was attached to the cleaning sled and soaked with 5-7 sprays of cleaning solutions. Each coupon was sprayed 7-10 times with the same cleaning solution. The cleaning unit was run for 20 cycles (~33 seconds). At the end of the cleaning, coupons were wiped once with a dry paper towel. Final weights were recorded. Efficiencies were calculated and recorded.

Results: Nine of the thirteen products averaged over 85% removal of the bathroom soap scum from the three substrates using manual wiping. The table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Substrate	Initial wt	Final wt	% Removed	Ave %	
Clorox	Chrome	0.0775	0.0301	61.16		85.63
		1.1519	0.1527	86.74	70.75	
		0.0687	0.0245	64.34		
	Fiberglass	0.0766	0.0041	94.65		
		0.3002	0.0144	95.20	94.20	
		0.1652	0.0120	92.74		
	Ceramic	0.1145	0.0082	92.84		
		0.1858	0.0166	91.07	91.94	
		0.1348	0.0109	91.91		
Countertop	Chrome	0.1579	0.0605	61.68		75.41
		0.0953	0.0648	32.00	55.55	
		0.1716	0.0464	72.96		
	Fiberglass	0.1469	0.0076	94.83		
		0.1531	0.0024	98.43	92.89	
		0.1357	0.0198	85.41		
	Ceramic	0.1088	0.0352	67.65		
		0.2800	0.0311	88.89	77.79	
		0.2133	0.0494	76.84		
Seventh Kitchen	Chrome	0.1479	0.0339	77.08		83.70
		0.0932	0.0236	74.68	78.13	
		0.1757	0.0305	82.64		
	Fiberglass	0.1618	0.0136	91.59		
		0.2694	0.0074	97.25	88.99	
		0.1467	0.0321	78.12		
	Ceramic	0.1051	0.0253	75.93		
		0.1489	0.0128	91.40	83.97	

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		0.2172	0.0335	84.58		
Soft Scrub	Chrome	0.1503	0.1256	16.43		36.35
		0.1657	0.1503	9.29	17.46	
		0.1080	0.0792	26.67		
	Fiberglass	0.1276	0.0475	62.77		
		0.1622	0.0881	45.68	49.39	
		0.0821	0.0495	39.71		
	Ceramic	0.1888	0.1035	45.18		
		0.1030	0.0573	44.37	42.20	
		0.1431	0.0901	37.04		
Formula 409	Chrome	0.5631	0.0140	97.51		89.69
		0.1453	0.0145	90.02	93.85	
		0.1517	0.0091	94.00		
	Fiberglass	0.3902	0.0331	91.52		
		0.3312	0.0489	85.24	87.07	
		0.2990	0.0465	84.45		
	Ceramic	0.2481	0.0250	89.92		
		0.2932	0.0431	85.30	88.17	
		0.3670	0.0393	89.29		
Meyer All Purpose	Chrome	0.1020	0.0067	93.43		92.82
		0.2497	0.0161	93.55	94.82	
		0.1937	0.0049	97.47		
	Fiberglass	0.3951	0.0546	86.18		
		0.2674	0.0297	88.89	91.14	
		0.3421	0.0057	98.33		
	Ceramic	0.2852	0.0174	93.90		
		0.3527	0.0284	91.95	92.51	
		0.2816	0.0234	91.69		
Seventh All Purpose	Chrome	0.1107	0.0032	97.11		88.52
		0.0828	0.0115	86.11	86.17	
		0.0607	0.0150	75.29		
	Fiberglass	0.5097	0.0764	85.01		
		0.5819	0.0520	91.06	88.68	
		0.3541	0.0355	89.97		
	Ceramic	0.3281	0.0253	92.29		
		0.3694	0.0379	89.74	90.70	
		0.2340	0.0232	90.09		
DFC General Spray	Chrome	0.1468	0.0206	85.97		89.61
		0.1895	0.0309	83.69	86.86	
		0.1706	0.0155	90.91		
	Fiberglass	0.3983	0.0425	89.33		
		0.4171	0.0398	90.46	91.89	
		0.5162	0.0213	95.87		
	Ceramic	0.2324	0.0315	86.45		
		0.3112	0.0080	97.43	90.07	
		0.3162	0.0432	86.34		
DFC Kitchen	Chrome	0.0966	0.0176	81.78		91.68
		0.1280	0.0046	96.41	91.57	
		0.1981	0.0069	96.52		
	Fiberglass	0.3835	0.0887	76.87		
		0.4196	0.0694	83.46	85.04	
		0.4075	0.0212	94.80		
	Ceramic	0.2190	0.0031	98.58		

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		0.22477	0.00367	98.37	98.43	
		0.2814	0.0047	98.33		
Comet	Chrome	0.1737	0.0192	88.95		90.93
		0.1383	0.0084	93.93	91.27	
		0.1477	0.0134	90.93		
	Fiberglass	0.2775	0.0364	86.88		
		0.3620	0.0332	90.83	92.09	
		0.3005	0.0043	98.57		
	Ceramic	0.1187	0.0146	87.70		
		0.1457	0.0149	89.77	89.44	
		0.3689	0.0338	90.84		
Meyer Shower	Chrome	0.2192	0.0050	97.72		97.51
		0.1650	0.0045	97.27	97.66	
		0.1648	0.0033	98.00		
	Fiberglass	0.4640	0.0127	97.26		
		0.3955	0.0120	96.97	96.73	
		0.5164	0.0208	95.97		
	Ceramic	0.1488	0.0031	97.92		
		0.1194	0.0019	98.41	98.15	
		0.1165	0.0022	98.11		
Seventh Bathroom	Chrome	0.2186	0.0085	96.11		94.12
		0.1730	0.0079	95.43	95.20	
		0.2148	0.0127	94.06		
	Fiberglass	0.4616	0.0352	92.37		
		0.4713	0.0164	96.52	91.39	
		0.2403	0.0354	85.27		
	Ceramic	0.1460	0.0096	93.42		
		0.2681	0.0067	97.50	95.78	
		0.2820	0.0101	96.42		
DFC Polish	Chrome	0.1131	0.0552	51.19		79.26
		0.1520	0.0295	80.59	62.81	
		0.1448	0.0628	56.63		
	Fiberglass	0.4007	0.0033	99.18		
		0.2526	0.0166	93.43	95.39	
		0.1244	0.0080	93.57		
	Ceramic	0.2891	0.0374	87.06		
		0.2442	0.0502	79.44	79.59	
		0.1579	0.0438	72.26		

Summary:

Substrates:	Ceramics, Fiberglass, Chrome
Contaminants:	Films, Soaps

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Clorox Company	Clorox Kitchen Cleaner	100	85.63	☑	
Seventh Generation	Free & Clear Kitchen Cleaner	100	83.70	☐	
Henkel Corporation	Soft Scrub with Bleach	100	36.35	☐	
Clorox Company	Formula 409 All Purpose Cleaner	100	89.69	☑	
Mrs Myers Clean Day	Mrs Meyers Lemon Multisurface Cleaner	100	92.82	☑	
Seventh Generation	Free & Clear All Purpose	100	88.52	☑	
Cogent Environmental Solutions	DFC General Spray	100	89.61	☑	
Cogent Environmental Solutions	DFC Kitchen Spray	100	91.68	☑	
Prestige Brands Inc	Comet Bathroom Cleaner	100	90.93	☑	
Mrs Myers Clean Day		100	97.51	☑	

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	Mrs Meyers Lavender Tub and Tile				
Seventh Generation	Disinfecting Bathroom Cleaner	100	94.12	☑	
Cogent Environmental Solutions	DFC GPC Polish	100	79.26	☐	

Conclusion: All thirteen products will be evaluated next on the Hucker's soil for all purpose cleaning.