CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2003

DateRun: 02/19/2003

Experimenters: Jason Marshall, Heidi Wilcox

ClientType: State Agency

ProjectNumber: Project #2

Substrates: Ceramics

PartType: Coupon

Contaminants: Films, Soaps

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric, Photography

Purpose: To evaluate supplied cleaners for bathroom soil removal on ceramic coupons.

Experimental Procedure: Four supplied cleaning products were diluted to vendor recommended concentrations for bathroom cleaning. Each product was diluted with DI water. Twelve preweighed ceramic 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. Photographs were taken.

Three coupons were placed into a Gardner Straight Line Washability unit. A Professional Painter's Rag 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 and a second set of photographs were taken. Efficiencies were calculated and recorded.

Results: Only one product was successful in removing over 85% of SSL Soil 1 from ceramic coupons. Two removed over 80% and one removed less than 60% of the soil. Table 1 lists the amount of soil applied and removed.

Table 1. Soil Application and Removal

Cleaner	Initial wt	Final wt	% Removed
H2Orange2	0.1475	0.0375	74.58
	0.1864	0.0380	79.61
	0.2334	0.0219	90.62
Super H2O2	0.1494	0.0184	87.68
	0.1558	0.0109	93.00
	0.1892	0.0115	93.92
Free Fall	0.1686	0.0508	69.87
	0.1413	0.0147	89.60
	0.2478	0.0187	92.45
Ecogent	0.2212	0.0826	62.66
	0.1600	0.0480	70.00
	0.2432	0.1330	45.31

Summary:

Substrates:	Ceramics
Contaminants:	Films, Soaps

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
EnvirOx LLC	H2Orange2	8	81.60	☐	
Cleanline Products	H2O2 Super Citrus Concentrate	5	91.54	☑	
Ramsey Company	Free Fall	12	83.97	☐	
Cogent Environmental Solutions	Ecogent General All Purpose Cleaner	6	59.32	☐	

Conclusion: The overall cleaning performance of the four products tested on SSL Soil 1 are as follows:

SSL Soil 1	Fiberglass	Chrome	Ceramic	Overall Efficiency
H2Orange2	98.1	97.04	81.60	92.25
	93.06	91.00	91.54	91.86

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Super H2O2				
Free Fall	98.53	95.39	83.97	92.63
Ecogent	91.64	94.62	59.32	81.86

Three of the four meet the 85% soil removal rate. Only one product, Super H2O2 was successful on all three substrates tested. The one product that did not meet the overall passing criteria was effective on two of the three surfaces tested.