CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2003

DateRun: 02/23/2003

Experimenters: Jason Marshall, Heidi Wilcox

ClientType: State Agency

ProjectNumber: Project #2

Substrates: Plastic

PartType: Coupon

Contaminants: Dirt, Hucker's Soil

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric, Photography

Purpose: To evaluate supplied products on third soil type on G10 plastic coupons.

Experimental Procedure: Four supplied cleaning products were diluted with DI water to vendor recommended concentrations for all purpose cleaning. Twelve preweighed G-10 plastic coupons were coated with Hucker's Soil Formulation (Jif Creamy Peanut Butter 9.2%, Salted Butter 9.2%, Arrowhead Mills stone ground wheat flour 9.2%, Egg Yolk 9.2%, Evaporated milk 13.8%, Distilled water 45.8%, Printer's ink with boiled linseed oil 0.9%, Shaws saline solution 2.7%) 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 not able to be cleaned using the Gardner Straight Line Washability unit, so coupons were wiped by hand using Professional Painter's Rags soaked with 5-7 sprays of cleaning solutions. Each coupon was sprayed 7-10 times with the same cleaning solution. The cleaning was run for 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: Three of the four products were successful in removing SSL Soil 3 from plastic coupons. The table below lists the amount of soil added and removed.

Table 1. Soil Application and Removal

Cleaner	Initial wt	Final wt	% Removed
H2Orange2	0.0389	0.0054	86.12
	0.0680	0.0062	90.88
	0.0231	0.0008	96.54
Super H2O2	0.0262	0.0052	80.15
	0.0336	0.0047	86.01
	0.0187	0.0018	90.37
Free Fall	0.0286	0.0020	93.01
	0.0362	0.0078	78.51
	0.0198	0.0032	83.84
Ecogent	0.0439	0.0157	64.24
	0.0196	0.0018	90.82
	0.0344	0.0104	69.77

Summary:

Substrates:	Plastic
Contaminants:	Dirt, Hucker's Soil

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
EnvirOx LLC	H2Orange2	4	91.18	☑	
Cleanline Products	H2O2 Super Citrus Concentrate	3	85.51	☑	
Ramsey Company	Free Fall	6	85.12	☑	
Cogent Environmental Solutions	Ecogent General All Purpose Cleaner	3	74.94	☐	

Conclusion: The products will be evaluated on the third substrate, painted steel (appliance surface) using the third soil.