CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2010
DateRun:	12/13/2010
Experimenters:	Jason Marshall, Kathleen Tenaglia
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Ceramics, Plastic, Steel
PartType:	Coupon
Contaminants:	Hucker's Soil
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	To evaluate supplied product for all purpose cleaning.

Experimental Procedure:

All three products were used at room temperature. The supplied product was used at a 1:128 dilution. The green comparative product was used at its ready to use concentration. The non-green comparative product was diluted to 2% using DI water.

Preweighed ceramic, plastic G-10 and painted steel 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 handheld 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 Wypal reinforced paper towel 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:

All three products were effective at removing the Hucker’s soil from the three surfaces using manual wiping. The supplied product was more effective than the non-green product and about the same as the green product removing more than 90% of the Hucker’s soil. The table lists the amount of soil added, the amount remaining after cleaning and the calculated efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Nordico - ceramic			
	0.1036	0.0032	96.91
	0.0759	0.0081	89.33
	0.1448	0.0027	98.14
Nordico - painted steel			
	0.0405	0.0030	92.59
	0.0522	0.0085	83.72
	0.0367	0.0007	98.09
Nordico - plastic			
	0.1430	0.0229	83.99
	0.0547	0.0094	82.82
	0.0673	0.0028	95.84
Seventh Generation - ceramic			
	0.1351	0.0102	92.45
	0.1048	0.0120	88.55
	0.1125	0.0033	97.07
Seventh Generation - painted steel			
	0.0629	0.0007	98.89
	0.0831	0.0025	96.99
	0.1059	0.0043	95.94
Seventh Generation - plastic			
	0.0648	0.0045	93.06

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	0.0716	0.0075	89.53
	0.0709	0.0073	89.70
3R - ceramic			
	0.1369	0.0218	84.08
	0.1602	0.0058	96.38
	0.1274	0.0299	76.53
3R - painted steel			
	0.1090	0.0106	90.28
	0.0720	0.0143	80.14
	0.1198	0.0045	96.24
3R - plastic			
	0.0771	0.0152	80.29
	0.0576	0.0102	82.29
	0.0836	0.0174	79.19

Summary:

Substrates:	Ceramics, Plastic, Steel
Contaminants:	Hucker's Soil

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Seventh Generation	Free & Clear All Purpose	100	93.57	☑	
Next-Gen Supply Group	3R All Purpose Cleaner	2	85.05	☑	
Nordico Market Development	EcoCatalyst Green	1.56	91.27	☑	

Conclusion: The supplied product was found to be effective for removing the Hucker’s soil the three surfaces using manual wiping. It compared well to the two other cleaning products supplied for testing.