CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2012
DateRun:	09/11/2011
Experimenters:	Jason Marshall, Johnny Le, Mahima Tank
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 following TURI Lab testing procedures
Experimental Procedure:	The two cleaning products were diluted with DI water at room temperature to vendor recommended concentration for all purpose cleaning (1:48). Preweighed ceramic, plastic G-10 and painted steel coupons were coated with Hucker's Soil Formulation (Jif Creamy Peanut Butter, Salted Butter, Arrowhead Mills stone ground wheat flour, Egg Yolk, Evaporated milk, distilled water, Printer's ink with boiled linseed oil, Shaws saline solution) 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:	Both products were effective at removing the Hucker's soil from the three surfaces using manual wiping. 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
GreenWorks All Purpose - ceramic			
	0.0289	0.0003	98.96
	0.0414	0.0043	89.61
	0.0346	0.0011	96.82
GreenWorks All Purpose - plastic			
	0.0477	0.0024	94.97
	0.0237	0.0023	90.3
	0.0412	0.0043	89.56
GreenWorks All Purpose - painted steel			
	0.0547	0.0015	97.26
	0.0456	0.0025	94.52
	0.0464	0.0025	94.61
3R - ceramic			
	0.0555	0.001	98.2
	0.1406	0.0031	97.8
	0.037	0.0016	95.68
3R - plastic			
	0.0842	0.003	96.44
	0.0613	0.0034	94.45
	0.0742	0.0035	95.28
3R - painted steel			
	0.0929	0.002	97.85
	0.0389	0.0033	91.52
	0.1884	0.0041	97.82

Summary:

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Contaminants:	Hucker's Soil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Clorox Company	Green Works Multi-Surface Cleaner	2	94.07	☑	
Next-Gen Supply Group	3R All Purpose Cleaner	2	96.11	☑	

Conclusion: The GreenWorks product was found to be effective for removing the Hucker’s soil from various surfaces using manual wiping. It compared well with the other cleaning product.