CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2013
DateRun:	02/18/2013
Experimenters:	Johnny Le, Loc Nguyen, Anni Geng
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 products for all purpose cleaning using manual cleaning
Experimental Procedure:	Pre-weighed Ceramic, Plastic and Painted coupons were coated with Hucker soil 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 Wypall X60 reinforced wipe was attached to the cleaning sled and soaked with 5 sprays of cleaning solutions. Each coupon was sprayed 5 times with the same cleaning solution. The solution was allowed to penetrate for 30 seconds followed by cleaning in the SLW unit for 20 cycles (~30 seconds). At the end of the cleaning, coupons were allowed to air dry for 24 hours and weighed for a final time. Efficiency was calculated for each coupon. Chemistries Evaluated: Scrubs Organic product; All Purpose 409;
Results:	Scrubs cleaner was effective on all three soils. The removal of the Hucker soil from ceramic coupons was the lowest of the three surfaces. The All Purpose 409 was effective at removing Hucker soil from ceramic, plastic and painted coupons. The table lists the amount of soil applied, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Scrubs - ceramic			
	0.0615	0.0067	89.11
	0.0653	0.0043	93.42
	0.0763	0.0217	71.56
Formula 409 - ceramic			
	0.0821	0.0045	94.52
	0.0470	0.0030	93.62
	0.1784	0.0052	97.09
Scrubs - plastic			
	0.1274	0.0059	95.37
	0.1839	0.0043	97.66
	0.0971	0.0025	97.43
Formula 409 - plastic			
	0.1505	0.0091	93.95
	0.1461	0.0041	97.19
	0.0713	0.0009	98.74
Scrubs - painted metal			
	0.0543	0.0047	91.34
	0.0642	0.0074	88.47
	0.0761	0.0054	92.90
Formula 409 - painted metal			
	0.0571	0.0020	96.50
	0.0444	0.0032	92.79
	0.0514	0.0031	93.97

Summary:

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Substrates:	Ceramics, Plastic, Steel				
Contaminants:	Hucker's Soil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Scrubs Organics	Scrubs All Purpose	100	90.81	☑	
Clorox Company	Formula 409 All Purpose Cleaner	100	95.37	☑	

Conclusion: The supplied products had an overall removal rating that was comparable to the Formula 409 product using manual cleaning with paper towel.