CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2009
DateRun:	10/26/2009
Experimenters:	Jason Marshall, Junhee Cho, Scott Nadolna
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 new formulation for all purpose cleaning following GS 37 requirements.
Experimental Procedure:	The supplied cleaning product was used at the supplied concentration (4%). A second product, selected by the lab, was used at the vendor supplied concentration. Preweighed ceramic 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 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 solution was allowed to penetrate for 30 seconds followed by cleaning in the SLW unit 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 efficiencies were calculated and recorded.
Results:	Both the supplied product and conventional product were ineffective in removing the Hucker's Soil with a manual wiping action. The table lists the amount of soil initially added and the amount remaining after cleaning and the product efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Super H2O2 Ceramic	0.2435	0.0737	69.73
	0.2355	0.0735	68.79
	0.1201	0.0595	50.46
Super H2O2 Painted steel	0.1690	0.0248	85.33
	0.1066	0.0261	75.52
	0.0551	0.0219	60.25
Super H2O2 Plastic	0.0671	0.0080	88.08
	0.0502	0.0023	95.42
	0.0534	0.0053	90.07
Super H2O2 SS	0.1699	0.0601	64.63
	0.1379	0.0137	90.07
	0.1313	0.0133	89.87
Formula 409 Ceramic	0.1121	0.0361	67.80
	1.0450	0.0594	94.32
	0.1063	0.0684	35.65
Formula 409 Painted Steel	0.1849	0.0351	81.02
	0.2293	0.0647	71.78
	0.1090	0.0356	67.34
Formula 409 Plastic	0.1106	0.0025	97.74
	0.1276	0.0143	88.79
	0.1471	0.0142	90.35
Formula 409 SS	0.0829	0.0202	75.63
	0.1801	0.0301	83.29

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	0.1108	0.0304	72.56

Summary:

Substrates:	Ceramics, Plastic, Steel				
Contaminants:	Hucker's Soil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Cleanline Products	H2O2 Super Citrus Concentrate	4	75.96	☐	
Clorox Company	Formula 409 All Purpose Cleaner	100	77.20	☐	

Conclusion:

The supplied product had an overall average efficiency less than 85% and would not be considered effective based on the SSL testing methodology for all purpose cleaning. A follow up test will be conducted using a higher concentration for the supplied product.