CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2012
DateRun:	11/08/2012
Experimenters:	Johnny Le, Loc Nguyen, Anni Geng, Mina Le
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Ceramics, Plastic, Steel
PartType:	Coupon
Contaminants:	Greases, Oil, Food
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	To evaluate supplied tablet for all purpose cleaning
Experimental Procedure:	The provided product tablet (~2.5grams) was dissolved in 16 ounces of water. A comparative product was used at the ready-to-use concentration. Preweighed ceramic, plastic and painted steel coupons were coated with a mixture of shortening (33%), lard (33%) and cooking oil (33%) 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 2-3 sprays of cleaning solutions. Each coupon was sprayed 1-2 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 removed more than 95% of the soil using manual wiping for 30 seconds. The table lists the amount of soil added, the amount remaining, and the efficiency of each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Sunstate Lab All Purpose - Ceramic			
	0.0801	0.0025	96.88
	0.0846	0.0055	93.50
	0.0360	0.0043	88.06
Sunstate Lab All Purpose - Painted Steel			
	0.0538	0.0037	93.12
	0.0746	0.0024	96.78
	0.0659	0.0039	94.08
Sunstate Lab All Purpose - Plastic			
	0.0889	0.0013	98.54
	0.0833	0.0066	92.08
	0.1058	0.0109	89.70
Formula 409 - Ceramic			
	0.0807	0.0049	93.93
	0.0742	0.0047	93.67
	0.0769	0.0098	87.26
Formula 409 - Painted Steel			
	0.0563	0.0026	95.38
	0.0630	0.0042	93.33
	0.0805	0.0072	91.06
Formula 409 - Plastic			
	0.0819	0.0087	89.38
	0.0767	0.0028	96.35

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	0.1255	0.0050	96.02

Summary:

Substrates:	Ceramics, Plastic, Steel
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Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Clorox Company	Formula 409 All Purpose Cleaner	100	92.93	☑	
Sunstate Laboratory LLC	Sunstate All Purpose Cleaner Tablet	15	93.64	☑	

Conclusion: The supplied product worked as well as an on-the market all-purpose cleaning product.