CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2002
DateRun:	11/12/2012
Experimenters:	Loc Nguyen, Anni Geng
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Plastic, Steel, Porcelain
PartType:	Coupon
Contaminants:	Greases, Food
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	To evaluate four supplied products for all purpose cleaning following GS 37 requirements
Experimental Procedure:	The three products were used at full strength as recommended. Preweighed porcelain, painted steel and plastic coupons were coated with DCC-17 using a hand held 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. ChemistriesEvaluated: Cleaner: 1. Common Good & Company All Purpose Cleaner; 2. 7th Generation ALL Purpose; 3. Formula 409
Results:	All three products were NOT effective at removing the PCC-17 from the three surfaces using manual wiping. The Product 3 resulted in the lowest efficiency, removing just over 78% of the DCC-17. The table lists the amount of soil added, the amount remaining after cleaning and the calculated efficiency for each coupon cleaned. A- Porcelain; B- Painted steel; C-Plastic

Cleaner	Sub	Initial	Final	%Removed	Ave % Removed
1	A	0.0271	0.0050	80.44	77.55
1	A	0.0514	0.0065	87.35	
1	A	0.0330	0.0116	64.85	
1	B	0.0526	0.0041	92.21	91.76
1	B	0.0428	0.0041	90.42	
1	B	0.0545	0.0040	92.66	
1	C	0.0454	0.0087	80.84	76.52
1	C	0.0725	0.0169	76.69	
1	C	0.0311	0.0087	72.03	
2	A	0.0500	0.0092	81.60	64.38
2	A	0.0239	0.0109	54.39	
2	A	0.0217	0.0093	57.14	
2	B	0.0490	0.0024	95.10	94.60
2	B	0.0297	0.0017	94.28	
2	B	0.0340	0.0019	94.41	
2	C	0.0118	0.0026	77.97	76.68
2	C	0.0305	0.0115	62.30	
2	C	0.0382	0.0039	89.79	
3	A	0.0528	0.0084	84.09	73.00
3	A	0.0618	0.0232	62.46	
3	A	0.0345	0.0095	72.46	
3	B	0.0288	0.0026	90.97	93.05
3	B	0.0426	0.0025	94.13	
3	B	0.0420	0.0025	94.05	
3	C	0.0319	0.0009	97.18	84.44

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3	C	0.0163	0.0070	57.06	
3	C	0.0220	0.0002	99.09	

Summary:

Substrates:	Plastic, Steel, Porcelain				
Contaminants:	Greases, Food				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Seventh Generation	Free & Clear All Purpose	100	78.55	☐	
Clorox Company	Formula 409 All Purpose Cleaner	100	83.50	☑	
Common Good & Co	All purpose cleaner RTU	100	81.94	☑	

Conclusion:

None of the three products were found to remove more than 85% of the DCC-17 from various surfaces using manual wiping. The supplied product worked as well as the conventional cleaner and the on-the-market green cleaning product.