CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2015
DateRun:	08/05/2015
Experimenters:	Loc Nguyen, Michael McDermott
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #9
Substrates:	Ceramics, Plastic, Steel
PartType:	Coupon
Contaminants:	Greases, Food
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	To evaluate supplied products for all purpose cleaning using manual cleaning
Experimental Procedure:	Soil Preparation: A mixture of three cooking oils/greases was made. A melt blend of 33% vegetable shortening, 33% lard, 33% vegetable oil and 1% carbon lampblack was made up fresh for the testing. Preweighed ceramic, painted steel and plastic coupons were coated with DCC17 soil using a hand held swab and were 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 1 spray of water with a VWR bottle. Each coupon was applied with 0.5 gram of powder solution accompanied by a spray of water (~1 mL). The solution was allowed to penetrate for 30 seconds followed by cleaning in the SLW unit for 20 cycles (~30 seconds). An additional wipe cycle was done with one spray of water on each coupon and new Wypall for rinsing purposes. Coupons were let to dry 24 hours before reweighing and efficiency was calculated.

Results:

Cleaner Initial wt	Final wt	% Removed	% Removal	Overall Ave
BB Powder_Ceramic				
	1.0934	0.1292	88.1800	
	1.2777	0.1663	86.9800	
	1.3429	0.1457	89.1500	88.11
BB Powder_Plastic				
	0.7135	0.1667	76.6400	
	0.7695	0.1491	80.6200	
	1.3422	0.1026	92.3600	83.21
BB Powder_Painted Steel				
	1.0436	0.1478	85.8400	
	0.8504	0.1190	86.0100	
	0.7098	0.0655	90.7700	87.54
Comet_Ceramic				
	0.8058	0.0865	89.2700	
	0.8525	0.0790	90.7300	
	0.8530	0.0529	93.8000	91.27
Comet_Plastic				
	0.7946	0.1472	81.4700	
	0.8296	0.1011	87.8100	
	0.9652	0.0597	93.8100	87.70
Comet_Painted Steel				
	0.8425	0.0860	89.7900	
	0.7022	0.0658	90.6300	
	0.7069	0.0634	91.0300	90.48
Ajax_Ceramic				
	0.7694	0.0664	91.3700	

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	0.7722	0.0857	88.9000	
	0.7025	0.0631	91.0200	90.43
Ajax_Plastic				
	0.4921	0.0386	92.1600	
	0.7902	0.1080	86.3300	
	0.5852	0.0563	90.3800	89.62
Ajax_Painted Steel				
	0.5939	0.1130	80.9700	
	0.8023	0.0955	88.1000	
	0.8423	0.0407	95.1700	88.08

Summary:

Substrates:	Ceramics, Plastic, Steel
Contaminants:	Greases, Food

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Brand Buzz	Brand Buzz Powder Abrasive cleaner	100	86.28	☑	
Procter & Gamble	Comet with Bleach	100	89.82	☑	
Colgate-Palmolive Company	Ajax with Bleach (Powder)	100	89.38	☑	

Conclusion:

All products were effective in removing DCC-17 soil from tested surfaces. Comet had the highest removal efficiency of 89.82% followed closely by Ajax at removal of 89.38%. BrandBuzz had the lowest cleaning efficiency but came very close to the other products at 86.28.