CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2014
DateRun:	03/10/2014
Experimenters:	George Liang, Francisco Abreau
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:	Preweighed ceramic, painted steel, and plastic coupons were coated with hucker soil using a hand held swab and were allowed to dry for 2 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 L30 reinforced wipe was attached to the cleaning sled and soaked with 1 spray of cleaning solutions with a VWR bottle. Each coupon was sprayed 1 time 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). Efficiency was calculated for each coupon.

Results:

	Initial wt	Final wt	% Removed	Average
Chrisal 1%-Ceramic				
	0.5769	0.3632	37.04	
	0.6133	0.4229	31.05	
	0.6127	0.4257	30.52	32.87
Chrisal 1%-Painted Steel				
	0.6013	0.4078	32.18	
	0.6019	0.4095	31.97	
	0.6430	0.4096	36.30	33.48
Chrisal 1%-Plastic				
	0.6972	0.2206	68.36	
	0.6469	0.5046	22.00	
	0.6740	0.4746	29.58	39.98
Chrisal 2%-Ceramic				
	0.5879	0.4007	31.84	
	0.6002	0.4374	27.12	
	0.6370	0.3907	38.67	32.54
Chrisal 2%-Painted Steel				
	0.6111	0.4222	30.91	
	0.5610	0.2430	56.68	
	0.8728	0.4521	48.20	45.27
Chrisal 2%-Plastic				
	0.6396	0.3833	40.07	
	0.7112	0.4276	39.88	
	0.7179	0.3544	50.63	43.53
Chrisal 3%-Ceramic				
	0.6445	0.4623	28.27	

CLEANING LABORATORY EVALUATION SUMMARY

	0.6535	0.4826	26.15	
	0.6193	0.4493	27.45	27.29
Chrisal 3%-Painted Steel				
	0.6377	0.3928	38.40	
	0.5900	0.4431	24.90	
	0.5476	0.3088	43.61	35.64
Chrisal 3%-Plastic				
	0.3873	0.1783	53.96	
	0.4796	0.2158	55.00	
	0.6409	0.3223	49.71	52.89
409-Ceramic				
	0.6435	0.3881	39.69	
	0.6196	0.4678	24.50	
	0.6305	0.5182	17.81	27.33
409-Painted Steel				
	0.7698	0.1594	79.29	
	0.6756	0.2421	64.17	
	0.6840	0.6019	12.00	51.82
409- Plastic				
	0.6791	0.4780	29.61	
	0.6098	0.3193	47.64	
	0.6554	0.2829	56.84	44.70

Summary:

Substrates:	Ceramics, Plastic, Steel				
Contaminants:	Hucker's Soil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Chrisal USA Inc	PIP Probiotic All-Purpose Cleaner	1	64.70	☐	
Clorox Company	Formula 409 All Purpose Cleaner	100	72.49	☐	

Conclusion: Each product has shown a similar level of unsatisfactory results. The product with the highest removal efficiency was Clorox 409 at over 41%.