CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2014
DateRun:	05/14/2014
Experimenters:	Digvijay Devkota
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Ceramics, Plastic, Steel
PartType:	Coupon
Contaminants:	Greases, Food
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	The purpose of this test is to check whether the cleaners Artik, Fabuloso, and Formula 409 All Purpose Cleaner are effective in removing DCC-17 from the surface of the Ceramics, Plastics and Painted Steel coupons or not.
Experimental Procedure:	Three coupons were placed in a Gardner Straight Line Washability unit. A Kimberly-Clark Wypal reinforced paper towel was attached to the cleaning sled and soaked with 4-6 sprays of cleaning solutions. Each coupon was sprayed 3-5 times with the same cleaning solution. The cleaning unit was run for 20 cycles (~33seconds). At the end of the cleaning; bottom part of the coupons were wiped once with a dry paper towel. Final weights were recorded, efficiencies were calculated and recorded.
Results:	The DCC-17 soil was already made and was soiled in the surface of the coupons. Coupons were left for 2-3 hours to dry. Dirty weight was recorded and the coupons were cleaned using manual wipe and left overnight to dry. After cleaning, the weight was recorded and was calculated. Fabuloso and 409 All Purpose Cleaner were effective in cleaning the DCC-17 soil from the surfaces of the coupons used whereas Artik was not able to clean up the coupons and has an efficiency of 78%. The table lists the amount of soil added, the amount remaining after cleaning and the calculated efficiency for soil used.

Cleaner	Initial wt	Final wt	% Removed
Oresch_AllPurpose_Artik_Ceramics_DCC17			
	0.0200	0.0035	82.50
	0.2250	0.0338	84.98
	0.0316	0.0060	81.01
Oresch_AllPurpose_Artik_Plastics_DCC17			
	0.0400	0.0108	73.00
	0.0345	0.0021	93.91
	0.0290	0.0081	72.07
Oresch_AllPurpose_Artik_PaintedSteel_DCC17			
	0.0242	0.0038	84.30
	0.0275	0.0031	88.73
	0.0232	0.0011	95.26
Oresch_AllPurpose_Fabuloso_Ceramics_DCC17			
	0.0455	0.0010	97.80
	0.0342	0.0087	74.56
	0.0286	0.0016	94.41
Oresch_AllPurpose_Fabuloso_Plastics_DCC17			
	0.0324	0.0082	74.69
	0.0669	0.0047	92.97
	0.0358	0.0084	76.54
Oresch_AllPurpose_Fabuloso_PaintedSteel_DCC17			
	0.0206	0.0034	83.50
	0.0336	0.0039	88.39
	0.0131	0.0035	73.28
Oresch_AllPurpose_409Formulation_Ceramics_DCC17			
	0.1516	0.0276	81.79
	0.0543	0.0066	87.85

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	0.0447	0.0015	96.64
Oresch_AllPurpose_409Formulation_Plastics_DCC17			
	0.0663	0.0138	79.19
	0.0544	0.0108	80.15
	0.0620	0.0066	89.35
Oresch_AllPurpose_409Formulation_PaintedSteel_DCC17			
	0.0573	0.0045	92.15
	0.0400	0.0042	89.50
	0.0516	0.0038	92.64

Summary:

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

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Fisher Scientific	Absolute Ethanol	0	0.00	☐	
Oresch	Artik All Purpose Cleaner	100	67.09	☐	
Colgate-Palmolive Company	Fabuloso	100	84.96	☑	
Clorox Company	Formula 409 All Purpose Cleaner	100	67.36	☐	

Conclusion:

Cleaner Artik was effective at removing over 80% of the DCC-17 grease soil from the surface of the all three coupon types. The product closely matched the performance of Fabuloso and was slightly less effective than the 409 All Purpose Cleaner.