

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2024

DateRun: 10/02/2024

Experimenters: Cindy McClaughlin, Rachael Rososky

ClientType: Cleaner Manufacturer

ProjectNumber: Project #2

Substrates: Ceramics, Plastic, Stainless Steel

PartType: Coupon

Contaminants: DCC-17

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: To test the efficacy of different concentrations of a cleaner at various temperatures in removing DCC17 soil from a variety of substrates.

Experimental Procedure: Eighteen coupons were used total, with groups of three coupons of each substrate assigned to each unique concentration/temperature combination of the FB-1000 cleaner. The initial weights of each coupon were taken. The coupons were contaminated with DCC-17 Formulation using a handheld swab and dried overnight. The contaminated coupons were weighed and had their dirty weights recorded before placing three coupons of the same substrate into a Gardner Straight Line Washability (SLW) unit. A Kimberly-Clark Wypal reinforced paper towel was attached to the cleaning sled. The Wypal and each coupon were treated with two sprays (about 2.5 ml of cleaner per coupon) and cleaned for 20 cycles (~30 seconds of cleaning). Clean coupons dried for 24 hours before final weights were taken to assess the amount of soil removed.

Results:

Cleaner	Coupon Type	Initial wt of cont.	Final wt of cont.	%Cont Removed	% AVG	
FB-1000 1% 68F	Stainless Steel	0.4899	0.1130	76.93	74.37	67.82
		0.5110	0.1427	72.07		
		0.4824	0.1249	74.11		
	Polycarbonate	0.5476	0.3969	27.52	47.64	
		0.6379	0.2650	58.46		
		0.5244	0.2258	56.94		
	Ceramic	0.4849	0.0733	84.88	81.44	
		0.4959	0.1269	74.41		
		0.4967	0.0744	85.02		
FB-1000 1% 120F	Stainless Steel	0.4012	0.0532	86.74	87.24	86.59
		0.5057	0.0474	90.63		
		0.4311	0.0674	84.37		
	Polycarbonate	0.4327	0.0506	88.31	79.35	
		0.4571	0.1177	74.25		
		0.5930	0.1454	75.48		
	Ceramic	0.4462	0.0292	93.46	93.19	
		0.4223	0.0214	94.93		
		0.5358	0.0472	91.19		
FB-1000 2% 68F	Stainless Steel	0.6864	0.0494	92.80	92.07	86.69
		0.5525	0.0423	92.34		
		0.4247	0.0379	91.08		
	Polycarbonate	0.5611	0.1241	77.88	75.28	
		0.5217	0.1180	77.38		
		0.4998	0.1470	70.59		
	Ceramic	0.4738	0.0631	86.68	92.70	
		0.5284	0.0112	97.88		
		0.3044	0.0197	93.53		
FB-1000 2% 120F	Stainless Steel	0.5538	0.0492	91.12	90.70	87.65
		0.6082	0.0374	93.85		
		0.3089	0.0397	87.15		
	Polycarbonate	0.5054	0.0828	83.62	82.58	

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		0.4503	0.0853	81.06		
		0.5262	0.0891	83.07		
	Ceramic	0.3210	0.0752	76.57	89.66	
		0.6636	0.0400	93.97		
		0.5708	0.0090	98.42		

Summary:

Substrates:		Ceramics, Plastic, Stainless Steel				
Contaminants:		DCC-17				
Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:	
Innovative Chemical Technologies, Inc.	Virdivis FB1000 (ICT 1648L)	1%	67.82	<input type="checkbox"/>	Effective on stainless steel (74.37%) and Ceramic (81.44%). Not effective on polycarbonate (47.64%)	
Innovative Chemical Technologies, Inc.	Virdivis FB1000 (ICT 1648L)	1%	86.59	<input checked="" type="checkbox"/>		
Innovative Chemical Technologies, Inc.	Virdivis FB1000 (ICT 1648L)	2%	86.69	<input checked="" type="checkbox"/>		
Innovative Chemical Technologies, Inc.	Virdivis FB1000 (ICT 1648L)	2%	87.65	<input checked="" type="checkbox"/>		

Conclusion:

While the addition of heat seems to improve the performance of FB-1000 at a 1% concentration, heat does not make much of a difference in the performance of FB-1000 at a 2% concentration.