CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2021

DateRun: 06/07/2021

Experimenters: Anjali Bhagat

ClientType:

ProjectNumber: Project #1

Substrates: Ceramics, Plastic, Stainless Steel

PartType: Coupon

Contaminants: Greases

Cleaning Methods:

Analytical Methods: Gravimetric, Visual

Purpose: To retest experiment done on 6/3/2021 to evaluate the effectiveness of Kitchen Cleaner for the removal of DCC-17 from ceramic, plastic, and stainless steel substrates.

Experimental Procedure: Two cleaning products were retested and then compared: SIMS daily kitchen cleaner and Lysol kitchen cleaner. The same three ceramic, three plastic, and three stainless steel coupons were obtained and weighed for both of the products being tested. Coupons were then soiled with DCC-17 and allowed to air dry for 24 hours. After 24 hours of aging, a dirty weight was recorded. Coupons were then loaded onto a Gardner-scrub Straight Line Wash unit set to 10 cycles per minute for 20 cycles. Three pumps of cleaner were applied to each of the respective coupons and four pumps of cleaner were applied to the scrubbing blocks. The cleaner was allowed to sit for 30 seconds. Following the 30 seconds of resting, the SLW unit was run to simulate scrub cleaning. Coupons were then removed from the machine and allowed to dry in air for 24 hours. After the drying period, coupons were weighed, and a final clean weight was recorded. Effectiveness of the cleaners was determined.

Results: SIMS Kitchen Cleaner was most effective in removing DCC-17 from plastic substrates by an average of 97.18% while Lysol Kitchen Spray removed an average of 5.49% off of plastic substrates. Lysol Kitchen Spray Cleaner was most effect in the removal of DCC-17 on ceramic substrates by an average of 99.37%, while SIMS kitchen cleaner removed an average of 70.89% of DCC-17 off of ceramic substrates.

Cleaner	Substrate	Initial wt. of cont	Final wt. of cont	% Removal	Average
SIMs Kitchen Cleaner	Ceramic	0.1048	0.0012	98.85	70.89
		1.1812	1.0030	15.09	
		0.2749	0.0035	98.73	
	Stainless Steel	0.2562	0.0154	93.99	97.18
		0.4277	0.0075	98.25	
		0.1458	0.0010	99.31	
	Plastic	0.2149	0.0038	98.23	46.90
		0.1550	0.0019	98.77	
		0.1971	0.3081	-56.32	
Lysol Kitchen Spray Cleaner	Ceramic	0.2184	0.0019	99.13	99.37
		0.2270	0.0014	99.38	
		1.1199	0.0044	99.61	
	Stainless Steel	0.4660	0.1095	76.50	79.72
		0.3166	0.0126	96.02	
		0.2338	0.0780	66.64	
	Plastic	0.2084	0.0010	99.52	5.49
		0.4410	0.0043	99.02	
		0.2144	0.6048	-182.09	

Summary:

Substrates:	Ceramics, Plastic, Stainless Steel				
Contaminants:	Greases				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Sims Consumer Brand	Sims Kitchen	100%	0.00	☐	After cleaning on SLW, significant filming and streaking was present on all substrates.

Conclusion:

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SIMS Kitchen Cleaner was most effective in removing DCC-17 from plastic substrates by an average of 97.18% while Lysol Kitchen Spray removed an average of 5.49% off of plastic substrates. Lysol Kitchen Spray Cleaner was most effect in the removal of DCC-17 on ceramic substrates by an average of 99.37%, while SIMS kitchen cleaner removed an average of 70.89% of DCC-17 off of ceramic substrates. Next steps are to send the data to the company for further evaluation.