

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 0
 DateRun: 03/24/2021
 Experimenters: Ross Goding, Edward Judge
 ClientType: Lab
 ProjectNumber: Project #3
 Substrates: Ceramics, Plastic, Painted metal
 PartType: Coupon
 Contaminants: Hucker's Soil
 Cleaning Methods: Manual Wipe
 Analytical Methods: Gravimetric, Visual
 Purpose: To test the efficiency of Clorox Clean-Up Cleaner + Bleach in the removal of Hucker's Soil from several substrates

Experimental Procedure: Ceramic, plastic, and painted metal substrates were selected, 3 of each, and weights were recorded. Hucker's Soil (Creamy Peanut Butter, Salted Butter, Wheat gluten, Egg Yolk, Evaporated milk, DI water, Printer's ink with boiled linseed oil, India Ink, Saline Solution) was produced and applied to all 9 coupons, 3 of each substrate. The substrates were allowed to air dry for 2 hours before contaminated weights were recorded. Each substrate's 3 coupons were placed into the SLW machine. The substrates, as well as the SLW cleaning block with an attached cloth, were sprayed twice with the cleaning solution. The cleaning block was run across the substrates for 20 repetitions (simulating 20 wipes). Cleaned substrates were then left to air dry for 24 hours before cleaned weights were recorded. Final weights were taken and the experiment was concluded.

Results:

Cleaner	Substrate	Initial wt.	Dirty wt.	Clean wt.	Initial wt of cont.	Final wt of cont.	%Cont Removed	% AVG	% Overall
Clorox Clean-Up Cleaner + Bleach	Ceramic	52.8476	53.0159	52.8582	0.1683	0.0106	93.70	93.50	92.26
		53.2493	53.4427	53.2588	0.1934	0.0095	95.09		
		54.6274	54.8166	54.6418	0.1892	0.0144	92.39		
	Plastic	34.0376	34.5149	34.0718	0.4773	0.0342	92.83	90.07	
		32.2786	32.6493	32.3271	0.3707	0.0485	86.92		
		32.6373	33.1079	32.6822	0.4706	0.0449	90.46		
	Painted Metal	62.6091	62.8654	62.6306	0.2563	0.0215	91.61	93.21	
		61.2099	61.542	61.2246	0.3321	0.0147	95.57		
		62.8195	63.1098	62.8414	0.2903	0.0219	92.46		

Summary:

Conclusion: Clorox Clean-Up Cleaner + Bleach was 93.5% effective in removing Hucker's soil from ceramic, 90% effective at removing Hucker's soil from plastic, and 93.2% effective at removing Hucker's soil from painted metal. Overall, Clorox Clean-Up Cleaner + Bleach was 92.2% effective at removing Hucker's soil from all substrates.