CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2021

DateRun: 05/26/2021

Experimenters: Ross Goding, Edward Judge

ClientType: Lab

ProjectNumber: Project #4

Substrates: Ceramics, Plastic, Painted metal

PartType: Coupon

Contaminants: Hucker's Soil

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric, Visual

Purpose: To test the effectiveness of Windex Multi-Surface Spray in the removal of Hucker's Soil from various substrates

Experimental Procedure: A Windex Multi-Surface spray solution gathered for testing. Then, 3 coupons of each substrate (ceramic, plastic, painted steel) were collected and initial weights were taken. 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 applied to each coupon and allowed to air dry for 2 hours. After the 2 hour dry time, the weights of the newly contaminated coupons were measured. All coupons were placed into a Gardner-scrub Abrasion Tester machine. Wypall cleaning cloths were attached to each of the 3 cleaning blocks used for the test. Each Wypall cloth and all coupons received 2 sprays of the Windex Multi-Surface solution and the Gardner-scrub Abrasion Tester was run for 20 repetitions, simulating 20 manual wipes. Once cleaning concluded, the cleaned coupons were allowed to air dry for 24 hours. After 24 hours, the weights of the cleaned coupons were measured.

Results:

Cleaner	Substrate	Initial wt of cont.	Final wt of cont.	%Cont Removed	% AVG	% Overall
Windex Multi-Surface	Ceramic	0.0613	0.0007	98.86	84.02	83.69
		0.0469	0.0013	97.23		
		0.0431	0.0130	69.84		
	Plastic	0.0979	0.0292	70.17	77.98	
		0.0323	0.0029	91.02		
		0.0646	0.0176	72.76		
	Painted Metal	0.0618	0.0015	97.57	89.07	
		0.0459	0.0013	97.17		
		0.0654	0.0180	72.48		

Summary:

Substrates:	Ceramics, Plastic, Painted metal				
Contaminants:	Hucker's Soil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
SC Johnson & Son Inc	Windex Glass & More Cleaner (Spray)	100%	83.69	☑	Windex Multi-Surface Cleaner was effective in the removal of Hucker's Soil from various substrates.

Conclusion: Windex Multi-Surface spray was analyzed to determine its effectiveness in the removal of Hucker's Soil from ceramic, plastic, and painted steel substrates. Windex Multi-Surface spray was shown to be 84.02% effective in the removal of Hucker's Soil from ceramic, 77.98% effective in the removal of Hucker's Soil from plastic, and 89.07% effective in the removal of Hucker's Soil from painted steel. Overall, Windex Multi-Surface was 83.69% effective in removing Hucker's Soil from all substrates used for testing.