CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2011

DateRun: 02/23/2011

Experimenters: Johnny Le

ClientType: General

ProjectNumber: Project #1

Substrates: Ceramics, Porcelain

PartType: Coupon

Contaminants: Hucker's Soil

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: To evaluate an additional set of cleaners for toilet bowl cleaning

Experimental Procedure: Pre-weighed ceramic, porcelain coupons were coated with Hucker's Soil Formulation (Jiffy creamy peanut butter, salted butter, Arrowhead Mills stone ground wheat flour, egg yolk, evaporated milk, distilled water, printer's ink with boiled linseed oil, Shaws saline solution) using a hand held swab and allowed to dry for 24 hours at room temperature. The contaminated coupons were weighed again to determine the amount of soil added.

Three coupons were placed into a Gardner Straight Line Washability unit. A Kimberly-Clark Wypal reinforced paper towel was attached to the cleaning sled and soaked with 5-7 sprays of cleaning solutions. Each coupon was sprayed 7-10 times with the same cleaning solution. The cleaning unit was run for 20 cycles (~33 seconds).

At the end of the cleaning, coupons were wiped once with a dry paper towel. Final weights were recorded, efficiencies were calculated and recorded.

Products were selected based on toilet bowl cleaning needs and health and safety options.

Results: All of the products tested performed better on the porcelain surface as compared with the ceramic. Only one product, PC 101 had an overall average greater than 85% for the combined surface cleanings. The table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed	Surface Efficiency	Overall efficiency %
Ceramic TMI bathroom cleaner					
	0.0665	0.0403	39.40	32.41	58.76
	0.0799	0.0398	50.19		
	0.0758	0.0700	7.65		
Porcelain TMI bathroom cleaner					
	0.0847	0.0105	87.60	85.11	
	0.0509	0.0076	85.07		
	0.0519	0.0090	82.66		
Ceramic Clorox 409					
	0.0557	0.0273	50.99	63.34	77.20
	0.0969	0.0113	88.34		
	0.0584	0.0288	50.68		
Porcelain Clorox 409					
	0.0606	0.0142	76.57	91.06	
	0.1825	0.0053	97.10		
	0.1060	0.0005	99.53		
Ceramic RMS Tough Job					
	0.1234	0.0196	84.12	75.60	78.95
	0.0302	0.0085	71.85		
	0.1052	0.0307	70.82		
Porcelain RMS Tough Job					
	0.0591	0.0094	84.09	82.31	
	0.0379	0.0052	86.28		
	0.0891	0.0209	76.54		
Ceramic Delta					
	0.0821	0.0308	62.48	57.92	73.44
	0.0859	0.0236	72.53		

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	0.0480	0.0294	38.75		
Porcelain Delta					
	0.0736	0.0033	95.52	88.95	
	0.0528	0.0086	83.71		
	0.0517	0.0064	87.62		
Ceramic MD Stetson PC101					
	0.0619	0.0062	89.98	80.63	86.62
	0.0537	0.0189	64.80		
	0.0968	0.0125	87.09		
Porcelain MD Stetson PC101					
	0.0632	0.0066	89.56	92.62	
	0.0571	0.0059	89.67		
	0.0440	0.0006	98.64		
Ceramic Active Ion					
	0.0559	0.0386	30.95	44.88	66.50
	0.0767	0.0383	50.07		
	0.0897	0.0416	53.62		
Porcelain Active Ion					
	0.0452	0.0050	88.94	88.11	
	0.0360	0.0034	90.56		
	0.0330	0.0050	84.85		

Summary:

Substrates:	Ceramics, Porcelain
Contaminants:	Hucker's Soil

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Clorox Company	Formula 409 All Purpose Cleaner	100	77.20	☐	
DeltaGreen LLC	DeltaGreen Concentrate All Purpose and Degreaser	3	73.34	☐	
Rochester Midland Corporation	EnviroCare Tough Job	6.25	78.95	☐	
Next-Gen Supply Group	PC 101 Neutral and Glass Cleaner	2	86.62	☑	
Activeion Cleaning Solutions LLC	Activeion Pro	100	66.50	☐	

Conclusion: One product had an overall average greater than 85% for the toilet bowl soil removal.