CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2013
DateRun:	10/29/2013
Experimenters:	Junhee Cho, Loc Nguyen
ClientType:	Cleaning Equipment Mfr
ProjectNumber:	Project #1
Substrates:	Ceramics, Plastic, Chrome
PartType:	Coupon
Contaminants:	Films, Soaps
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	To evaluate three supplied products for bathroom cleaning
Experimental Procedure:	The supplied cleaning products were used at the supplied concentrations. Preweighed chrome, ceramic and fiberglass, coupons were coated with SSL Soil 1 (Bathroom soap scum: All-in-one shampoo and conditioner 28.6%, Dry skin lotion 21.4%, Liquid hand soap 21.4%, Liquid body wash 14.3%, Deodorant bar soap 7.2% and water 7.1%.) 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 Wypall L30 reinforced wipe was attached to the cleaning sled and soaked with 1 spray of cleaning solutions. Each coupon was sprayed 1 times with the same cleaning solution. The solution was allowed to penetrate for 30 seconds followed by cleaning in the SLW unit for 20 cycles (~33 seconds). At the end of the cleaning, coupons were wiped once with a dry paper towel. Final weights were recorded and efficiencies were calculated and recorded. ChemistriesEvaluated: Toucan Cleaner (1 g salt/1.5L); Proforce Bath & Tile; Lysol Bathroom
Results:	Free Chlorine level was measured using test strips and recorded to be 50 ppm. The pH of the solution was between 8 and 9. All three products worked well on the bathroom soap scum using manual cleaning. The Pro-Force product had the highest overall average but the Toucan solution was nearly the identical. The table lists the amount of soil added, the amount remaining and the calculated efficiency for each coupon cleaned.

Cleaner	Initial wt	Final w	% Removed	Ave % Removed	Product Ave
Toucan_Ceramic					92.4
	0.4148	0.0283	93.18		
	0.4174	0.0411	90.15		
	0.5041	0.0093	98.15	93.83	
Toucan_Plastic					
	0.3648	0.0216	94.08		
	0.3703	0.0189	94.90		
	0.3549	0.0359	89.88	92.95	
Toucan_Chrome					
	0.3463	0.0299	91.37		
	0.3425	0.0331	90.34		
	0.3120	0.0326	89.55	90.42	
Pro-Force Bath & Tile_Ceramic					93.19
	0.6583	0.0546	91.71		
	0.7331	0.0197	97.31		
	0.7519	0.0007	99.91	96.31	
Pro-Force Bath & Tile _Plastic					
	0.4114	0.0347	91.57		
	0.4861	0.0213	95.62		
	0.5191	0.0604	88.36	91.85	
Pro-Force Bath & Tile _Chrome					
	0.2199	0.0082	96.27		
	0.2294	0.0156	93.20		

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	0.1990	0.0304	84.72	91.4	
Lysol Bathroom_Ceramic					88.89
	0.2490	0.0371	85.10		
	0.2866	0.0342	88.07		
	0.3342	0.0295	91.17	88.11	
Lysol Bathroom_Plastic					
	0.2353	0.0197	91.63		
	0.2114	0.0256	87.89		
	0.1501	0.0305	79.68	86.4	
Lysol Bathroom_Chrome					
	0.1831	0.0123	93.28		
	0.1811	0.0150	91.72		
	0.1159	0.0099	91.46	92.15	

Summary:

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Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Toucan	Toucan Eco	100	92.40	☑	
EcoLab	Proforce Bathroom & Tile Cleaner with Bleach	100	93.19	☑	
Reckitt Benckiser	Lysol Bathroom Cleaner	100	88.89	☑	

Conclusion:

All of the products were effective at removing more than 88% of the bathroom soil from the surfaces using manual wiping. Proforce exhibited the highest levels of cleaning while Lysol Bathroom exhibited the lowest.