

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2014
DateRun: 08/12/2014
Experimenters: Loc Nguyen, George Liang
ClientType: Cleaner Manufacturer
ProjectNumber: Project #1
Substrates: Aluminum, Ceramics, Plastic
PartType: Coupon
Contaminants: Films, Soaps
Cleaning Methods: Manual Wipe
Analytical Methods: Gravimetric
Purpose: To evaluate the supplied products for bathroom cleaning using manual cleaning

Experimental Procedure: The supplied cleaning products were used at the recommended concentration (4.7Non-acid, 6.25% mild acid). Prewieghed 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 handheld 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 X60 reinforced wipe was attached to the cleaning sled and soaked with 2-3 sprays of cleaning solutions. Each coupon was sprayed 1-2 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 measured and efficiencies were calculated and recorded.

ChemistriesEvaluated: Zbioscience A1+; 7th Generation; Clorox Bathroom;

Results:

Cleaner	Initial wt	Final wt	% Removed	% Average
Z-Bio 1:50 _ceramic	0.3104	0.0467	84.95	
Z-Bio 1:50 _ceramic	0.2642	0.0712	73.05	
Z-Bio 1:50 _ceramic	0.3210	0.0514	83.99	80.66
Z-Bio 1:50 _plastic	0.2798	0.0817	70.80	
Z-Bio 1:50 _plastic	0.2696	0.0699	74.07	
Z-Bio 1:50 _plastic	0.2684	0.1177	56.15	67.01
Z-Bio 1:50 _Aluminum	0.3468	0.0639	81.57	
Z-Bio 1:50 _Aluminum	0.3701	0.0593	83.98	
Z-Bio 1:50 _Aluminum	0.2860	0.1819	36.40	67.32
7th Gen _ceramic	0.4428	0.0153	96.54	
7th Gen _ceramic	0.2179	0.0238	89.08	
7th Gen _ceramic	0.3326	0.0393	88.18	91.27
7th Gen _plastic	0.2619	0.0874	66.63	
7th Gen _plastic	0.2911	0.0739	74.61	
7th Gen _plastic	0.3491	0.1414	59.50	66.91
7th Gen _aluminum	0.4208	0.0375	91.09	

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7th Gen _aluminum	0.2873	0.0527	81.66	
7th Gen _aluminum	0.2595	0.0595	77.07	83.27
Clorox Bathroom _ceramic	0.3878	0.0256	93.40	
Clorox Bathroom _ceramic	0.2818	0.0289	89.74	
Clorox Bathroom _ceramic	0.2163	0.0335	84.51	89.22
Clorox Bathroom _plastic	0.2909	0.0230	92.09	
Clorox Bathroom _plastic	0.4188	0.1220	70.87	
Clorox Bathroom _plastic	0.1582	0.0459	70.99	77.98
Clorox Bathroom _aluminum	0.2387	0.0696	70.84	
Clorox Bathroom _aluminum	0.3474	0.0462	86.70	
Clorox Bathroom _aluminum	0.3915	0.0636	83.75	80.43

Summary:

Substrates:	Aluminum, Ceramics, Plastic				
Contaminants:	Films, Soaps				
Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Clorox Company	Disinfecting Bathroom Cleaner	100	83.00	<input checked="" type="checkbox"/>	
Bio Science	Z Biosurfactant Cleaner A-1	2	73.00	<input type="checkbox"/>	
Seventh Generation	Disinfecting Bathroom Cleaner	100	80.00	<input checked="" type="checkbox"/>	

Conclusion:

Clorox bathroom and 7th Generation cleaner were most effective in cleaning compared to Zbioscience with efficiency of 90% for ceramic. It was not effective in cleaning neither Chrome nor plastic. Zbioscience was not effective in cleaning any surface with an average of 72%. The difference in efficiency could have resulted from different in concentration between cleaners. Comparing the data result from the previous data Clorox bathroom still had the highest average effective cleaning rate at 83%, while 7th Gen came in second with an average effective rating of 80%.