

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2013  
 DateRun: 12/16/2013  
 Experimenters: Jason Marshall, Jonathan Oljey  
 ClientType: Cleaner Manufacturer  
 ProjectNumber: Project #1  
 Substrates: Ceramics, Fiberglass, Chrome  
 PartType: Coupon  
 Contaminants: Films, Soaps  
 Cleaning Methods: Manual Wipe  
 Analytical Methods: Gravimetric  
 Purpose: To evaluate the supplied product for bathroom cleaning using manual cleaning against two commercial products

Experimental Procedure: The supplied cleaning product was used at the recommended concentration (4 oz/gal; 3.1%). The other two products were used at the ready-to-use concentration. Prew weighed 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 X20 reinforced wipe was attached to the cleaning sled and soaked with 1-2 sprays of cleaning solutions. Each coupon was sprayed 1-2 times with the same cleaning solution. The solution was allowed to penetrate for 10-15 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.

Chemistries Evaluated: nClean; Clorox Bathroom Cleaner; Seventh Generation Free & Clear Bathroom Cleaner;

Results: The supplied product both removed over 85% of the bathroom soap scum soil from the surfaces using manual cleaning. The conventional product and the green product removed 70%. The table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
nCleans - ceramic	0.1553	0.0093	94.01
	0.1098	0.0382	65.21
	0.1452	0.0359	75.28
nCleans - plastic	0.0978	0.0039	96.01
	0.1677	0.0186	88.91
	0.1530	0.0253	83.46
nCleans - chrome	0.1609	0.0253	84.28
	0.1376	0.0119	91.35
	0.1697	0.0118	93.05
Clorox bathroom - ceramic	0.1559	0.0816	47.66
	0.1644	0.0665	59.55
	0.1316	0.0355	73.02
Clorox bathroom - plastic	0.1337	0.0307	77.04
	0.1724	0.0210	87.82
	0.1724	0.0395	77.09
Clorox bathroom - chrome	0.1600	0.0431	73.06

## CLEANING LABORATORY EVALUATION SUMMARY

	0.1639	0.0285	82.61
	0.1778	0.0428	75.93
7th Gen bath - ceramic			
	0.1271	0.0125	90.17
	0.1677	0.0319	80.98
	0.1299	0.0436	66.44
7th Gen bath - plastic			
	0.1850	0.0179	90.32
	0.1460	0.0259	82.26
	0.1173	0.0364	68.97
7th Gen bath - chrome			
	0.1804	0.0206	88.58
	0.1904	0.0136	92.86
	0.1314	0.0095	92.77

Summary:

<b>Substrates:</b>	Ceramics, Fiberglass, Chrome				
<b>Contaminants:</b>	Films, Soaps				
<b>Company Name:</b>	<b>Product Name:</b>	<b>Conc.:</b>	<b>Efficiency:</b>	<b>Effective:</b>	<b>Observations:</b>
Geophia	nClean	1003.1	85.73	<input checked="" type="checkbox"/>	
Clorox Company	Disinfecting Bathroom Cleaner	100	72.64	<input type="checkbox"/>	
Seventh Generation	Disinfecting Bathroom Cleaner	100	83.70	<input checked="" type="checkbox"/>	

Conclusion:

The supplied product had an overall average efficiency over 85% and performed better than the conventional and green commercially available cleaning products.