CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2025

DateRun: 11/17/2025

Experimenters: Amelia Wagner

ClientType: Cleaner Manufacturer

ProjectNumber: Project #1

Substrates: Ceramics, Plastic, Chrome

PartType: Coupon

Contaminants: SSL Soil 1 Bathroom Soap Scum

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: To test the efficacy of Titan's home cleaning solutions bathroom cleaner compared to a baseline product (Zep Foaming Shower, Tub & Tile Cleaner) in removing soil from various substrates.

Experimental Procedure: Three coupons of each substrate were assigned to one of the two cleaners being tested. The coupons had their initial weights recorded. About 0.5 grams of SSL Soil 1 Bathroom Soap Scum (shampoo, conditioner, lotion, liquid hand soap, liquid body wash, deodorant bar soap, water) was spread on the bottom third of each coupons using a swab. The soiled coupons were then left to air dry overnight. The next day, the dirty weights of each coupon was recorded. Three coupons at a time were placed in the Straight-Line Washability unit, and a KC Wypal reinforced paper towel was attached to the cleaning sled and treated with two sprays of cleaning solution (equivalent to 2.5 ml). Each coupon was sprayed twice with the same cleaning solution (equivalent to and additional 2.5 ml). The cleaning unit was run for 20 cycles (equivalent to 30 seconds of cleaning). Coupons were dried and final weights were recorded.

Results:

Cleaner	Substrate	Initial wt of cont.	Final wt of cont.	%Cont Removed	% AVG	% Overall
Titan Bathroom Cleaner	Plastic	0.0761	-0.0043	105.65	104.46	98.67
		0.0669	-0.0029	104.33		
		0.0677	-0.0023	103.40		
	Ceramic	0.0663	0.0020	96.98	96.80	
		0.0804	0.0035	95.65		
		0.0673	0.0015	97.77		
	Chrome Plated Steel	0.0512	0.0027	94.73	94.76	
		0.0701	0.0044	93.72		
		0.0814	0.0034	95.82		
Zep Foaming Shower, Tub & tile Cleaner	Plastic	0.0770	-0.0011	101.43	101.00	97.72
		0.0909	-0.0005	100.55		
		0.0589	-0.0006	101.02		
	Ceramic	0.0682	0.0029	95.75	95.50	
		0.0748	0.0045	93.98		
		0.0932	0.0030	96.78		
	Chrome Plated Steel	0.0625	0.0044	92.96	96.66	
		0.0682	0.0035	94.87		
		0.0603	-0.0013	102.16		

The removal of over 100% of soil shown of the plastic coupons of both cleaners is likely due to flaking of the surface of the plastic. This is not indicative of incompatibility with the cleaning chemistries and is most likely due to abrasion from the cleaning sled of the SLW.

Summary:

Substrates:	Ceramics, Plastic, Chrome				
Contaminants:	SSL Soil 1 Bathroom Soap Scum				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
ZEP Manufacturing Company	Zep Foaming Shower, Tub & Tile Cleaner	RTU	97.72	☑	
Titan Homes - DLS Formulations	Titan Home Cleaning Solution Bathroom Cleaner	RTU	98.67	☑	

Conclusion: Both cleaners are highly effective in removing SSL 1 Bathroom Soap Scum from all substrates. The Titan Bathroom Cleaners showed higher efficacy on both plastic and ceramic coupons compared to the Zep

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product, while the Zep product showed a higher efficacy on chrome plated steel. The Titan Bathroom Cleaner showed higher cleaning power overall.