CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2021

DateRun: 08/11/2021

Experimenters: Nicole Kebler

ClientType: Cleaning Company

ProjectNumber: Project #1

Substrates: Ceramics, Stainless Steel

PartType: Coupon

Contaminants: Greases, Dirt, Films, Soaps, Oil

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric, Visual

Purpose: To evaluate the effectiveness of Nusteam steam cleaner for the removal of soil from ceramic and stainless steel in comparison to Formula 409 and Clorox Bathroom Cleaner.

Experimental Procedure: Three ceramic coupons and three stainless steel coupons per cleaning product were pre-weighed for initial weights. Ceramic coupons were soiled with Bathroom Soil and stainless-steel coupons were soiled with DCC-17, they were left to dry for 24 hours. After dry, they were weighed for dirty weights. The three coupons were added to the Straight Line Washability Unit (SLW) and were sprayed twice by the comparative product. A Kimberly-Clark Wypall reinforced paper towel was sprayed twice and the SLW unit ran for 20 cycles. After cleaning the coupons, the coupons were left to dry. The NuSteam unit was heated up until the light changed from red to green, a clean pad was added to the unit per substrate. After heated, the unit was used for one wipe, and coupons were left to dry. A final weight for one wipe was recorded and then coupons were wiped an additional 19 times. After 20 full wipes were complete, the final weights were recorded.

Results: NuSteam performed better than the comparative products for both ceramic and stainless steel. For one wipe on stainless steel there was 99% removal effectiveness and for 20 there was 98% effectiveness. For one wipe on ceramic there was 96% removal effectiveness and for 20 wipes was 99.7% effectiveness. Clorox removed bathroom soil from ceramic at 83% effectiveness and Formula 409 removed DCC-17 from stainless steel with 98% effectiveness. NuSteam showed almost full removal after one wipe.

Substrate	Cleaner	Soil	Initial wt. of Cont	1 Wipe Final wt. of Cont	1 Wipe Cont Removed	1 Wipe Average
Stainless Steel	NuSteam	DCC-17	0.5241	0.0077	98.53	98.92
			0.5050	0.0079	98.44	
			0.7100	0.0015	99.79	
Ceramic		Bathroom Soil	0.1256	0.0069	94.51	95.77
			0.1112	0.0049	95.59	
			0.1216	0.0034	97.20	

Additional Results

Substrate	Cleaner	Soil	Initial wt. of Cont	20 Wipe Final wt. of Cont	20 Wipe Cont Removed	20 Wipe Average
Stainless Steel	NuSteam	DCC-17	0.5241	0.0083	98.42	98.83
			0.5050	0.0064	98.73	
			0.7100	0.0046	99.35	
	409		0.6716	0.0308	95.41	97.62
			0.6190	0.0032	99.48	
			0.4861	0.0099	97.96	
Ceramic	Nusteam	Bathroom Soil	0.1256	0.0006	99.52	99.67
			0.1112	0.0001	99.91	
			0.1216	0.0005	99.59	
	Clorox Bathroom		0.1107	0.0245	77.87	83.40
			0.1115	0.0154	86.19	
			0.1227	0.0170	86.15	

Summary:

Conclusion:

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After one wipe, the NuSteam removed the soil from both substrates with averages over 96%. Nusteam performed better than comparative products for 20 wipes, averaging over 99% for both substrates. Clorox Bathroom had the lowest removal for ceramic substrates at 83% removal.