CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2021

DateRun: 02/09/2021

Experimenters: Edward Judge

ClientType: Cleaner Manufacturer

ProjectNumber: Project #1

Substrates: Aluminum, Glass/Quartz, Plastic

PartType: Coupon

Contaminants: Dirt

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric, Visual

Purpose: To test the efficiency of SAAFH Device Cleaner in the removal of carpet soil from Aluminum, Glass and Plastic.

Experimental Procedure: Aluminum, glass, and plastic coupons were gathered and designated for the two cleaners being tested. Initial weights of the coupons were measured. The carpet soil solution was made using 5 grams of carpet soil mix and 45 grams of mineral oil. 1 gram of this mixture was spread onto each coupon using a swab. Coupons were left to air dry for 1 hour. After the 1 hour, coupons were weighed again to record their contaminated weights. Coupons were then loaded into the gravimetric manual wiping machine 3 at a time. 3 of the same substrates were loaded with the first cleaner applied to the cloth wipe in an amount of 2 sprays. This was repeated for the next 2 substrates. This process was then repeated with the second comparison cleaner. Once all coupons had been cleaned, final weights were taken and recorded for each coupon.

Cleaners Used:

1. Sustainable Tech Device Cleaner
2. >99% Isopropyl Alcohol

Substrates Used:

1. Aluminum
2. Glass
3. Plastic

Results: Overall, both cleaners were effective for the removal of carpet soil from the substrates. Sustainable Tech performed a little better and averaged 91% for the removal on Aluminum, 94% on Glass and 92% on Plastic. Isopropyl Alcohol averaged 89% for Aluminum, 91% for Glass and 92% for Plastic. Coupons were visually clean with minimal additional cleaning necessary.

Cleaner	Substrate	Initial wt of cont.	Final wt of cont.	%Cont Removed	% AVG
Sustainable Tech (SAAFH) Device Cleaner	Aluminum	0.6593	0.0721	89.06	90.66
		0.7183	0.069	90.39	
		0.7102	0.0531	92.52	
	Glass	0.7070	0.0421	94.05	94.27
		0.7774	0.0491	93.68	
		0.7740	0.038	95.09	
	Plastic	0.6512	0.0614	90.57	91.51
		0.7320	0.0541	92.61	
		0.8427	0.0729	91.35	
Ultracruz Animal Care Isopropyl Alcohol	Aluminum	0.7606	0.0771	89.86	88.65
		0.7043	0.0794	88.73	
		0.7165	0.0906	87.36	
	Glass	0.6873	0.0871	87.33	91.35
		0.8102	0.0558	93.11	
		0.6316	0.0404	93.60	
	Plastic	0.9228	0.0805	91.28	91.74
		1.0182	0.0794	92.20	
		0.8535	0.0705	91.74	

Summary:

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Substrates:	Aluminum, Glass/Quartz, Plastic
Contaminants:	Dirt

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Sustainable Tech LLC	SAAFH Device Cleaner	RTU	0.00	☑	SAAFH Device Cleaner was effective for the removal of carpet soil on Aluminum, Glass and Plastic.
Fisher Scientific	Isopropanol (CAS:67-63-0)	99%	0.00	☑	Isopropyl was over 90% effective for the removal of carpet soil on Glass and Plastic and was 89% effective for the removal on Aluminum.

Conclusion:

SAAFH Device Cleaner appeared to be more efficient in cleaning contamination off of the substrates than the isopropyl alcohol that it was being compared to in the experiment. SAAFH had a slightly higher overall percentage of cleaning and had higher average percentages on aluminum and glass coupons. Isopropyl alcohol had a slightly higher average percentage on plastic, but not by much. The two products had very similar values with regard to cleaning efficiency, but overall SAAFH cleaned more efficiently than isopropyl alcohol.