CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2023

DateRun: 01/01/1970

Experimenters: Tatyanna Moreland Junior, Alexander Symko, Dylan Labonte

ClientType:

ProjectNumber: Project #6

Substrates: Aluminum, Glass/Quartz, Plastic, Stainless Steel

PartType: Coupon

Contaminants: Adhesive

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: Efficacy testing of Case Medical cleaner against M.D. Stetson EPS at removing Wilsonart 3000 adhesive from aluminum, plastic, glass, and stainless steel.

Experimental Procedure: Twelve coupons per cleaner, three of each substrate (aluminum, plastic, glass, stainless steel), had initial weights recorded before soiling with Wilsonart 3000 adhesive and air drying for 24 hours at room temperature (68°). After drying, dirty weights were recorded. Three coupons of the same substrate were placed onto the Gardner-scrub Abrasion Tester machine (SLW). Wypall cleaning cloths were attached to the cleaning block used for the test. Each Wypall cloth and all coupons received one spray of the cleaner, and the Gardner-scrub Abrasion Tester was run for 20 cycles (Equivalent to 30 seconds of cleaning). After air drying for 24 hours, final weights were taken.

Results:

Cleaner	Substrate	Initial wt of cont.	Final wt of cont.	%Cont Removed	% Average Removal	% Overall Removal
Case Medical	Aluminum	0.0357	0.0319	10.64	4.90	15.16
		0.0491	0.0474	3.46		
		0.0500	0.0497	0.60		
	Glass	0.0276	0.0241	12.68	11.83	
		0.0426	0.0372	12.68		
		0.0355	0.0319	10.14		
	Plastic	0.0230	0.0174	24.35	37.00	
		0.0146	0.0054	63.01		
		0.0389	0.0297	23.65		
	Stainless Steel	0.0418	0.0402	3.83	6.92	
		0.0227	0.0199	12.33		
		0.0436	0.0416	4.59		
EPS Dilution 1:10	Aluminum	0.4841	0.4784	1.18	1.95	3.81
		0.5285	0.5080	3.88		
		0.4672	0.4635	0.79		
	Glass	0.3626	0.3558	1.88	3.95	
		0.5690	0.5374	5.55		
		0.7352	0.7027	4.42		
	Plastic	0.5341	0.4881	8.61	7.48	
		0.6163	0.5688	7.71		
		0.7052	0.6621	6.11		
	Stainless Steel	0.4668	0.4583	1.82	1.88	
		0.4952	0.4835	2.36		
		0.6804	0.6705	1.46		

Larger amounts of the Adhesive was applied to the EPS Dilution samples than was applied to the Case Medical samples due to a different soiling method being used. Additionally, after further cleaning the leftover adhesive easily peeled off the aluminum, glass, stainless steel, but was extremely difficult to remove from the plastic coupons.

Summary:

Conclusion: Case Medical cleaner was more effective at removing Wilsonart 3000 adhesive from aluminum, glass, plastic, and stainless steel than M.D. Stetson's EPS.