CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2020

DateRun: 06/17/2020

Experimenters: Alicia McCarthy

ClientType: Metal

ProjectNumber: Project #1

Substrates: Glass/Quartz

PartType: Coupon

Contaminants: Resins/Rosins

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric, Visual

Purpose: To test the effectiveness of aqueous and solvent based cleaners in removing water-based rosin from stainless steel coupons.

Experimental Procedure: Three pre-contaminated glass coupons for each of the six cleaners; Sta Sol ESS 160, RB Degreaser, SC Aircraft & Metal Cleaner, Smart Solve 605, Valtron SP 2275, and Ozzy Juice SW-3, were weighed for initial weights. The coupons were soiled with Tacolyn 3570 rosin. Coupons were immersed into beakers with the respective cleaners for 15 minutes at room temperature. Observations were taken in five minute intervals. After immersion, coupons were dried with one wipe from a paper towel and air dry for remaining moisture. Effectiveness of cleaning was determined visually and gravimetrically.

Results:

Cleaner	Conc.	Initial wt	Final wt	%Cont Removed	% AVG	Observations
Sta Sol ESS 160 (Dimethyl Glutarate)	100%	0.0862	0.0238	72.39	62.70	No visual change during immersion
		0.0769	0.0322	58.13		
		0.0804	0.0341	57.59		
RB Degreaser	20%	0.0802	0.0863	-7.61	-13.23	No visual change during immersion
		0.0749	0.0811	-8.28		
		0.0786	0.0973	-23.79		
SC Aircraft and Metal Cleaner	20%	0.0779	0.0887	-13.86	-5.50	No visual change during immersion
		0.0756	0.0775	-2.51		
		0.0824	0.0825	-0.12		
Smart Solve 605	100%	0.0798	0.0039	95.11	90.47	Removal showing after 10 minutes
		0.0794	0.0064	91.94		
		0.0883	0.0138	84.37		
Valtron SP 2275	2%	0.0787	0.0807	-2.54	-8.09	No visual change during immersion
		0.0885	0.0964	-8.93		
		0.0695	0.0784	-12.81		
Ozzy Juice SW 3	100%	0.0860	0.0870	-1.16	-1.93	No visual change during immersion
		0.0801	0.0827	-3.25		
		0.0805	0.0816	-1.37		

Summary:

Substrates:	Glass/Quartz
Contaminants:	Resins/Rosins

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
JR Hess & Co., Inc.	Sta-Sol ESS 160	100%	62.70	☑	
Environmental Technology	RB Degreaser Cleaner	20%	-13.23	☐	
Gemtek Products	SC Aircraft & Metal Cleaner Super Concentrate	20%	-5.50	☐	
United Laboratories International	Smart Solve 605	100%	90.47	☑	
Valtech Corporation	Valtron SP 2275	2%	-8.09	☐	

Conclusion: Smart Solve 605 was the most effective cleaner in removing the rosin Tacolyn 3570 from the glass coupons.