CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2020

DateRun: 06/17/2020

Experimenters: Alicia McCarthy

ClientType: Aircraft Parts Manufacturer

ProjectNumber: Project #1

Substrates: Glass/Quartz

PartType: Part

Contaminants: Resins/Rosins

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric, Visual

Purpose: To evaluate the effectiveness and performance of various cleaners on the removal of rosin #4 from glass coupons with a heated immersion process.

Experimental Procedure: A total of seven pre-weighted glass coupons were soiled, all with the given containment, Rosin #4. The bottom one third of the coupon was soiled on one side using a handheld swab. Each coupon was placed into a beaker with the respective cleaner heated to 120º F and immersed for a total of 60 minutes. During this process, any noticeable soil removal was observed at 5,15,30 and 60 minutes. Coupons were wiped once after removal observations were made and allowed to dry for five minutes. Afterwards final weights were recorded as well as efficiency of removal was calculated for each coupon cleaned.

Results:

Product	Initial wt of cont.	Final wt of cont.	%Cont Removed
Ozzy Juice SW 3	3.2077	3.2960	-2.75
AC Actisolv	2.1282	2.0884	1.87
SC Maxisolv	1.4457	0.0673	95.34
7th Generation Detergent	1.8001	1.8070	-0.38
Dimethyl glutarate	1.7279	0.0543	96.86
Propylene carbonate	2.3184	2.3247	-0.27
Smart Solv 605	1.4367	0.0061	99.58

SC Maxisolv, Dimethyl glutarate, and SmartSolv 605 showed visual removal and change in cleaner color at 5min, 15min, 30min, and 1 hour, and increased in effectives with additional immersion time. The SC Maxisolv and Dimethyl gluterate exhibited the rosin being nearly entirely removed from the coupon, and the SmartSolv 605 with complete removal. The remaining cleaners showed some swelling, which could be contributed to the contaminant absorbing the cleaner, additionally no major removal visually or change in cleaner color was observed.

Summary:

Substrates:	Glass/Quartz				
Contaminants:	Resins/Rosins				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Chem Free Corporation	SW-3 Ozzy Juice (Improved Low Odor)		-2.75	☐	

Conclusion: The subsequent testing will include the introduction of additional heat and agitation in the form of ultrasonics, to further investigate the effectiveness of these evaluated cleaners.