CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2020

DateRun: 07/29/2020

Experimenters: Alicia McCarthy, Hayley Byra

ClientType: Aircraft Parts Manufacturer

ProjectNumber: Project #1

Substrates:

PartType: Part

Contaminants: Coatings, Resins/Rosins

Cleaning Methods: Ultrasonics

Analytical Methods: Visual

Purpose: The purpose of this experiment was to determine the effectiveness of high performing cleaners in removing the protect-o-coat soil from parts provided by the company with heated ultrasonics.

Experimental Procedure: One substrate provided by the company was obtained to be tested for each of the cleaners. Concentration and temperature of the cleaners are as follows; Smart Solve 605 100% concentration at 150°F, SC Actisolv 50% concentration at 120°F, SC Maxisolv 100% concentration at 120°F, and Mirachem 500 25% concentration at 120°F. Parts were soiled with the protect-o-coat soil. Parts were then submerged into their respective cleaners for 30 minutes. After the 30 minutes had passed, parts were removed and allowed to dry. Photos where taken before cleaning and after cleaning to show effectiveness of the cleaners.

Results:

Cleaner	Observations
Smart Solve 605	140°F start temp, 145°F end temp. Completely removed soil after 15 minutes.
SC Actisolv	Removed some of the protect-o-coat.
SC Maxisolv	Removed very little of the protect-o-coat.
Mirachem 500	Completely clean after 20 minutes.

Summary:

Substrates:					
Contaminants:	Coatings, Resins/Rosins				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
United Laboratories International	Smart Solve 605	100%	100.00	☑	Removed soil after 15 minutes
Gemtek Products	SC Actisolv Safety Solvent	50%	65.00	☐	Removed some of the soil.
Gemtek Products	Safe Care (SC) Maxi Solv	100%	5.00	☐	Removed very little of the soil.
Mirachem Corporation	Mirachem 500	25%	100.00	☑	Removed soil after 20 minutes.

Conclusion: Smart Solve 605 100% concentration at 140-145°F was the most effective cleaner removing the protect-o-coat soil from its tested part after 15 minutes. Mirachem 500 25% concentration at 120°F was the second most effective cleaner removing the soil after 20 minutes. The next step would be to discuss potential cleaner options with the company and plan for additional parts testing.