CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2008

DateRun: 06/23/2008

Experimenters: Jason Marshall, Shweta Bansal

ClientType: Chemical Company

ProjectNumber: Project #1

Substrates: Aluminum

PartType: Coupon

Contaminants: Resins/Rosins

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate dilutions at longer cleaning times

Experimental Procedure: The three products from the previous trial based on successful removal of the resin and had the ability to be diluted. Each of the three products were used at 50% strength in 300 ml glass beakers. Solutions were used at room temperature. Nine preweighed aluminum coupons were coated with the Mereco ECN 809 Base Black resin using a swab. Coupons were weighed a second time to determine the amount of soil added. Three coupons were immersed into each product and cleaned for 60 minutes using no agitation. Following cleaning, coupons were rinsed for 15 seconds in tap water at 68 F and dried using air blow off for 30 seconds at room temperature. Final weights were recorded, and efficiencies were calculated. If coupons were not completely cleaned, an additional cleaning period of 60 minutes would be run.

Results: After the first hour, the coupons were not close to being completely cleaned so no weights were recorded. The Smart Solve 605 dilution started separating into two sections, the solvent and water, and needed agitation to sustain a mixture. Following the second hour, two sets of coupons looked nearly clean. The Smart Solve 605 was the most effective of the three after 2 hours of immersion cleaning. The table lists the amount of resin added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Smart Solve 605	1.6584	0.0134	99.19
	2.2108	0.0859	96.11
	3.1716	0.1551	95.11
Floor Finish Remover	2.3693	0.5079	78.56
	2.7239	0.7028	74.20
	2.8222	0.7154	74.65
Maxi Solv	2.1716	0.2023	90.68
	2.5967	0.3200	87.68
	4.1565	1.1227	72.99

Summary:

Substrates:	Aluminum
Contaminants:	Resins/Rosins

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
United Laboratories International	Smart Solve 605	50	96.81	☑	
Spartan Chemical Company	Green Solutions Floor Stripper	50	75.80	☐	
Gemtek Products	Safe Care (SC) Maxi Solv	50	83.78	☑	

Conclusion: The diluted products could be used to remove the resin using immersion cleaning over an extended period of time (more than two hours). Final laboratory testing will focus on matching the current cleaning process more closely (rinsing and drying).