CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2008

DateRun: 07/09/2008

Experimenters: Jason Marshall, Heidi Wilcox, Shweta Bansal

ClientType: Chemical Company

ProjectNumber: Project #1

Substrates: Aluminum

PartType: Coupon

Contaminants: Resins/Rosins

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric, Visual

Purpose: To evaluate different cleaning parameters for resin cleaning

Experimental Procedure: The top six products from the previous trials were selected based on successful removal of the resin were used at full strength in 300 ml glass beakers. Solutions were used at room temperature. Twenty-four preweighed aluminum coupons were coated with the 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. The coupons were rinsed with tap water for 15 seconds at 68 F and were dried using compressed air blow off 30 seconds at room temperature. Final weights were recorded, and efficiencies were calculated. Coupons also were visually analyzed to determine the level of residue left on the coupons.

Results: All of the products removed more than 98% of the resin from the aluminum coupons. The table lists the amount of soil added, the amount remaining after cleaning and the calculated efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed	Visual Residue Rank
EZ Solv	1.9928	0.0106	99.468	1
	1.9004	0.0145	99.237	
	3.5904	0.0109	99.696	
Maxi Solv	2.1188	0.0095	99.552	5
	1.6045	0.0134	99.165	
	1.8768	0.0151	99.195	
Graffiti Remover SAC	1.4013	0.0159	98.865	2
	2.8620	0.0111	99.612	
	2.5483	0.0397	98.442	
Green Solutions	1.5362	0.0019	99.876	6
	1.6538	0.0205	98.76	
	2.7582	0.0896	96.752	
Bio T Max	2.0724	0.0126	99.392	3
	1.9152	0.0141	99.264	
	1.6091	0.0120	99.254	
Smart Solve 605	1.9921	0.0149	99.252	4
	1.4994	0.0127	99.153	
	2.5547	0.0194	99.241	

Summary:

Substrates:	Aluminum				
Contaminants:	Resins/Rosins				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Gemtek Products	SC EZ Solv Safety Solvent	100	99.47	☑	
Gemtek Products	Safe Care (SC) Maxi Solv	100	99.30	☑	
Spartan Chemical Company	Graffiti Remover SAC	100	98.97	☑	
Spartan Chemical Company		100	98.46		

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	Green Solutions Floor Stripper			☑	
Bio Chem Systems	Bio T Max	100	99.30	☑	
United Laboratories International	Smart Solve 605	100	99.22	☑	

Conclusion: Residues from each of the three rinsing/drying scenarios did not vary significantly from trial to trial. The SC EZ Solv was the most consistent, having been ranked as the lowest residue in 2 of the three trials.