

# 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 semi-aqueous products for resin removal using immersion cleaning.

Experimental Procedure: Nine products were selected from the lab's on-line database, [www.cleansolutions.org](http://www.cleansolutions.org), based on supplied information from client. Each product was used at full strength in 300 ml glass beakers. Solutions were used at room temperature. Twenty-seven 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 5 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.

Results: Six of the nine products removed over 40% of the resin after only five minutes of immersion cleaning. The Smart Solve 605 removed over 70%. The table lists the amount of resin added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
EZ Solv	2.4365	1.1997	50.76
	2.5610	1.4487	43.43
	2.5490	1.3278	47.91
Graffiti Remover SAC	0.9968	0.3810	61.78
	4.5480	1.8079	60.25
	1.8235	1.1350	37.76
Vertec BioGold #3	1.4315	0.9712	32.16
	1.1072	0.7802	29.53
	2.1620	1.6226	24.95
Ionox HC 2	2.1280	1.1368	46.58
	2.1730	1.6324	24.88
	1.7773	1.3583	23.58
Bio T Max	1.8281	0.9787	46.46
	2.0148	1.0709	46.85
	2.1788	1.3291	39.00
Solsafe 245	2.7403	2.0891	23.76
	2.1210	1.5612	26.39
	1.5743	1.2380	21.36
Graffiti Remover	2.1863	0.6904	68.42
	2.6732	0.7785	70.88
	2.9775	1.4637	50.84
Smart Solve 605	1.7721	0.5207	70.62
	1.0419	0.1691	83.77
	2.2441	0.8487	62.18
Floor Finish Remover	1.1368	0.5708	49.79
	1.6324	1.1040	32.37
	1.3583	0.7661	43.60

Summary:

<b>Substrates:</b>	Aluminum
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<b>Contaminants:</b>		Resins/Rosins			
<b>Company Name:</b>	<b>Product Name:</b>	<b>Conc.:</b>	<b>Efficiency:</b>	<b>Effective:</b>	<b>Observations:</b>
Gemtek Products	SC EZ Solv Safety Solvent	100	47.37	<input checked="" type="checkbox"/>	
Spartan Chemical Company	Graffiti Remover SAC	100	53.26	<input checked="" type="checkbox"/>	
Vertec BioSolvents	VertecBio Gold 3	100	28.88	<input type="checkbox"/>	
Kyzen Corporation	Ionox HC 2	100	31.68	<input type="checkbox"/>	
Bio Chem Systems	Bio T Max	100	44.10	<input checked="" type="checkbox"/>	
Bio Chem Systems	Solsafe 245	100	23.84	<input type="checkbox"/>	
Finger Lakes Chemical	Graffiti remover	100	63.38	<input checked="" type="checkbox"/>	
United Laboratories International	Smart Solve 605	100	72.19	<input checked="" type="checkbox"/>	
Spartan Chemical Company	Green Solutions Floor Stripper	100	41.92	<input checked="" type="checkbox"/>	

**Conclusion:** The six moderately successful products will be used again and will be used evaluated for 20 minutes of immersion cleaning.