

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2004  
 DateRun: 04/29/2004  
 Experimenters: Jason Marshall  
 ClientType: Capacitor Manufacturer  
 ProjectNumber: Project #1  
 Substrates: Aluminum  
 PartType: Coupon  
 Contaminants: Oil  
 Cleaning Methods: Immersion/Soak  
 Analytical Methods: Gravimetric

Purpose: To evaluate five new products on the first supplied soil.

Experimental Procedure: Five products were selected based on client request for vapor degreasing solvents. Each product was used at full strength in a 250 ml beaker and heated to 96 F on a hot plate. Fifteen preweighed aluminum coupons were coated with the Soltex Polybutene 32 (9003-29-6) using a hand held swab. Coupons were weighed a second time to determine the amount of soil added to each coupon. Three coupons were cleaned in each solution for 5 minutes using stir-bar agitation. After cleaning parts were weighed a final time and efficiencies were calculated.

Results: All five products removed over 90% of the contaminant within five minutes. The table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Ensolv	0.6136	0.0022	99.64
	0.4494	0.0015	99.67
	0.7979	0.0010	99.87
Ensolv A	0.3651	0.0012	99.67
	0.9078	0.0012	99.87
	0.6264	0.0007	99.89
Metalnox M6960	0.4272	-0.0001	100.02
	0.5370	0.0010	99.81
	0.4079	0.0277	93.21
Flux Remover	0.5576	0.0002	99.96
	0.3500	0.0000	100.00
	0.6874	0.0068	99.01
Heavy Duty Degreaser C	0.6942	0.0388	94.41
	0.3433	0.0555	83.83
	0.5158	0.0378	92.67

Summary:

<b>Substrates:</b>	Aluminum				
<b>Contaminants:</b>	Oil				
<b>Company Name:</b>	<b>Product Name:</b>	<b>Conc.:</b>	<b>Efficiency:</b>	<b>Effective:</b>	<b>Observations:</b>
Enviro Tech International Inc	Ensolv	100	99.73	<input checked="" type="checkbox"/>	
Enviro Tech International Inc	Ensolv A	100	99.81	<input checked="" type="checkbox"/>	
Kyzen Corporation	Metalnox M6960	100	97.68	<input checked="" type="checkbox"/>	
Micro Care	Flux Remover C	100	99.66	<input checked="" type="checkbox"/>	
Micro Care	Heavy Duty Degreaser C	100	90.31	<input checked="" type="checkbox"/>	Resoiling upon drag out

Conclusion: All five will be tested on the second soil.