

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2004  
DateRun: 05/28/2004  
Experimenters: Jason Marshall  
ClientType: Lab  
ProjectNumber: Project #1  
Substrates: Aluminum  
PartType: Coupon  
Contaminants: Oil  
Cleaning Methods: Vapor Degreasing  
Analytical Methods: Gravimetric

Purpose: Laboratory evaluations of alternative cleaning products

Experimental Procedure: Basic cleaning performance testing was conducted using ASTM G122 as the bases for cleaning. Two hundred fifty milliliters of each product were used at full strength in a 4000 ml beaker and heated to its boiling point on a hot plate. Preweighed aluminum coupons were coated with the C.P. Hall Co. Plasthall ESO oil (8013-07-8) using a handheld 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 vapor degreasing. After cooling to room temperature, the coupons were weighed a final time and efficiencies were calculated.

Results:

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>	
AGA Chemical	AK 225	100	99.72	<input checked="" type="checkbox"/>		
DuPont	Vertrel CCA	100	99.46	<input checked="" type="checkbox"/>		
DuPont	Vertrel MCA	100	99.27	<input checked="" type="checkbox"/>		
Micro Care	Heavy Duty Degreaser C	100	99.17	<input checked="" type="checkbox"/>		
Micro Care	Flux Remover C	100	98.97	<input checked="" type="checkbox"/>		
3M	HFE 7100	100	81.26	<input type="checkbox"/>		
3M	HFE 7200	100	90.33	<input checked="" type="checkbox"/>		
Enviro Tech International Inc	Ensolv A	100	100.04	<input checked="" type="checkbox"/>		
Kyzen Corporation	Metalnox M6960	100	99.52	<input checked="" type="checkbox"/>		
Poly Systems USA Inc	Solvon Kreussler PB	100	100.02	<input checked="" type="checkbox"/>		
Poly Systems USA Inc	Solvon Kreussler IP	100	99.83	<input checked="" type="checkbox"/>		
Dow Chemical Company	OS 10	100	91.43	<input checked="" type="checkbox"/>		
Dow Chemical Company	OS 20	100	87.79	<input checked="" type="checkbox"/>		
Dow Chemical Company	OS 30	100	87.23	<input checked="" type="checkbox"/>		

Conclusion: Thirteen of the fourteen products removed over 85%.