

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2004  
 DateRun: 05/28/2004  
 Experimenters: Jason Marshall  
 ClientType: Lab  
 ProjectNumber: Project #1  
 Substrates: Sterling/Silver  
 PartType: Coupon  
 Contaminants: Cutting/Tapping Fluids  
 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 Houghton Chemical Cut-Max 135 (64742-52-5, 64741-96-4) 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>		Sterling/Silver			
<b>Contaminants:</b>		Cutting/Tapping Fluids			
Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
AGA Chemical	AK 225	100	99.44	<input checked="" type="checkbox"/>	
DuPont	Vertrel CCA	100	99.53	<input checked="" type="checkbox"/>	
DuPont	Vertrel MCA	100	99.80	<input checked="" type="checkbox"/>	
Micro Care	Heavy Duty Degreaser C	100	99.01	<input checked="" type="checkbox"/>	
Micro Care	Flux Remover C	100	100.71	<input checked="" type="checkbox"/>	
3M	HFE 7100	100	93.65	<input checked="" type="checkbox"/>	
3M	HFE 7200	100	93.45	<input checked="" type="checkbox"/>	
Enviro Tech International Inc	Ensolv	100	100.10	<input checked="" type="checkbox"/>	
Enviro Tech International Inc	Ensolv A	100	100.07	<input checked="" type="checkbox"/>	
Kyzen Corporation	Metalnox M6960	100	98.72	<input checked="" type="checkbox"/>	
Poly Systems USA Inc	Solvon Kreussler PB	100	100.08	<input checked="" type="checkbox"/>	
Poly Systems USA Inc	Solvon Kreussler IP	100	100.37	<input checked="" type="checkbox"/>	
Dow Chemical Company	OS 10	100	99.91	<input checked="" type="checkbox"/>	
Dow Chemical Company	OS 20	100	99.10	<input checked="" type="checkbox"/>	
Dow Chemical Company	OS 30	100	94.52	<input checked="" type="checkbox"/>	

Conclusion: All fifteen products removed over 85%.