

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2004  
 DateRun: 05/26/2004  
 Experimenters: Jason Marshall  
 ClientType: Lab  
 ProjectNumber: Project #1  
 Substrates: Sterling/Silver  
 PartType: Coupon  
 Contaminants: Oil  
 Cleaning Methods: Immersion/Soak  
 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. The five products were used at full strength in a 250 ml beaker and heated to 96 F on a hot plate. Fifteen preweighed silver plated copper coupons were coated with the Houghton International Cindol 3401 oil (64742-46-7) 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 stir-bar agitation. After cleaning parts were weighed a final time and efficiencies were calculated.

Results:

Summary:

<b>Substrates:</b>	Sterling/Silver				
<b>Contaminants:</b>	Oil				
<b>Company Name:</b>	<b>Product Name:</b>	<b>Conc.:</b>	<b>Efficiency:</b>	<b>Effective:</b>	<b>Observations:</b>
DuPont	Vertrel MCA	100	91.50	<input checked="" type="checkbox"/>	
Micro Care	Heavy Duty Degreaser C	100	94.87	<input checked="" type="checkbox"/>	
Micro Care	Flux Remover C	100	89.94	<input checked="" type="checkbox"/>	
3M	HFE 7200	100	98.54	<input checked="" type="checkbox"/>	
Enviro Tech International Inc	Ensolv A	100	96.81	<input checked="" type="checkbox"/>	

Conclusion: All five removed over 85%.