

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2003  
 DateRun: 06/12/2003  
 Experimenters: Jason Marshall  
 ClientType: Medical Instrument Mfr  
 ProjectNumber: Project #1  
 Substrates: Copper, Nickel  
 PartType: Coupon  
 Contaminants: Lubricating/Lapping Oils  
 Cleaning Methods: Immersion/Soak  
 Analytical Methods: Gravimetric

Purpose: To evaluate client requested cleaning products.

Experimental Procedure: Two client requested samples were diluted to 5% using DI water in 600 ml beakers. Solutions were heated to 125 F on a hot plate. Six preweighed coupons were coated with the Metalube Corp ML-119.2 dry lubricant (Molybdenum disulfide, graphite, silicates) using a hand held swab. Coupons were allowed to sit for 30 minutes and weighed again to determine the amount of lubricant applied. Three coupons were cleaned in each solution for five minutes using stir-bar agitation. Coupons were rinsed for 15 seconds in tap water at 120 F and dried using a Master Appliance Heat Gun for 30 seconds at 500 F. The coupons were then allowed to cool to room temperature and weighed a final time. Efficiencies were calculated for each product.

Results: Both solutions removed most of the lubricant through immersion cleaning only. The table below lists the amount of soil added and remaining for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
MD 6000 IM	0.0031	0.0004	87.10
	0.0107	0.0003	97.20
	0.0066	0.0000	100.00
SP 2500 IM	0.0101	0.0010	90.10
	0.0142	0.0000	100.00
	0.0149	0.0001	99.33

Summary:

<b>Substrates:</b>	Copper, Nickel				
<b>Contaminants:</b>	Lubricating/Lapping Oils				
<b>Company Name:</b>	<b>Product Name:</b>	<b>Conc.:</b>	<b>Efficiency:</b>	<b>Effective:</b>	<b>Observations:</b>
Valtech Corporation	MD 6000	5	94.76	<input checked="" type="checkbox"/>	
Valtech Corporation	Valtron SP 2500	5	96.48	<input checked="" type="checkbox"/>	

Conclusion: The same two cleaners will be used with ultrasonic cleaning.