

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2002  
 DateRun: 10/29/2002  
 Experimenters: Jason Marshall  
 ClientType: Manufacturing  
 ProjectNumber: Project #1  
 Substrates: Aluminum  
 PartType: Coupon  
 Contaminants: Oil  
 Cleaning Methods: Immersion/Soak  
 Analytical Methods: Gravimetric  
 Purpose: To evaluate client requested cleaner on supplied contaminant

**Experimental Procedure:** One client requested product was diluted to 3% (Liquinox) in 1500 ml beaker and the other was diluted to 5% in 400 ml beaker using DI water. The solutions were heated to 130 F on a hot plate. Six preweighed coupons were coated with Milacron Marketing Company CIMTECH® 310 metal working fluid concentrate (102-71-6, 78-96-6, 26896-20-8) using a hand held swab. Coupons were then reweighed using a Denver Instruments A250 balance to determine the amount of contaminant added. The coupons were immersed into each solution and cleaned for 5 minutes using stir bar agitation. Coupons were rinsed for 15 seconds in a tap water bath at 120 F and finally dried using a Master Appliance Hot Air gun at 500 F for 30 seconds. After the coupons were dried, final weights were recorded and efficiencies calculated for each cleaning solution.

**Results:** The Det-O-Jet cleaner was more effective than the Liquinox solution. The table below lists the amount of contaminant applied and remaining as well as the product efficiency.

Cleaner	Initial wt	Final wt	% Removed
Liquinox	0.1857	0.0438	76.41
	0.4069	0.0428	89.48
	0.1169	0.0437	62.62
Det-O-Jet	0.1841	0.02	89.14
	0.2441	0.0225	90.78
	0.1244	0.0131	89.47

**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>
Alconox Inc	Liquinox	3	76.17	<input type="checkbox"/>	
Alconox Inc	Det-O-Jet	5	89.80	<input checked="" type="checkbox"/>	

**Conclusion:** Having been successful in removing the metal working fluid, Det-O-Jet will be evaluated on supplied parts using ultrasonic cleaning and OSEE analysis.