CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2004

DateRun: 07/11/2004

Experimenters: Jason Marshall, Heidi Wilcox, Andy Harris

ClientType: Metal Finishing

ProjectNumber: Project #2

Substrates: Aluminum

PartType: Coupon

Contaminants: Cutting/Tapping Fluids

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate successful cleaners on the third supplied contaminant

Experimental Procedure: Five cleaners were selected from the previous trial. All products were diluted to 5% using DI water in 600 ml beakers. All nine products were heated to 120 F on a hot plate. Fifteen preweighed aluminum coupons were coated with client supplied cutting fluid, WA Wood Co Maxoline 75 grinding oil (64741-97-5, 63449-39-8), using a hand held swab and then weighed a second time to determine the amount of soil added. Three coupons were cleaned in each solution for 5 minutes using stir-bar agitation. Coupons were rinsed in tap water for 15 seconds at 120 F, followed by air blow off at room temperature. Once dry, coupons were weighed a final time and efficiencies for each cleaner were calculated.

Results: All five products removed over 95% of the cutting fluid. The table below lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Beyond 2004	0.8304	0.0396	95.23
	1.1406	0.0083	99.27
	1.1068	0.0423	96.18
Aeromaster	1.0232	0.0465	95.46
	1.1004	0.0539	95.10
	1.0980	0.0500	95.45
1400 GD	1.0706	0.0210	98.04
	1.1760	0.0290	97.53
	0.9937	0.0396	96.01
M Aero	1.1484	0.0070	99.39
	1.4176	0.0153	98.92
	1.2883	0.0404	96.86
815 QR	1.5055	0.0233	98.45
	1.2380	0.0051	99.59
	0.9553	0.0139	98.54

Summary:

Substrates:	Aluminum				
Contaminants:	Cutting/Tapping Fluids				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Today & Beyond	Beyond 2004	5	96.89	☑	
Buckeye International	Aeromaster	5	95.33	☑	
Brulin Corporation	Aquavantage 1400	5	97.20	☑	
Church & Dwight Co Inc.	Armakleen M Aero NS	5	98.39	☑	
Brulin Corporation	815 QR	5	98.86	☑	

Conclusion: The next step will be to test supplied parts using the successful products in immersion and ultrasonic cleaning.