CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2008

DateRun: 05/19/2008

Experimenters: Jason Marshall, Shweta Bansal

ClientType: Machining Company

ProjectNumber: Project #1

Substrates: Aluminum

PartType: Coupon

Contaminants: Cutting/Tapping Fluids

Cleaning Methods: Mechanical Agitation

Analytical Methods: Gravimetric

Purpose: To evaluate additional products for second supplied soil.

Experimental Procedure: Preweighed coupons were coated with the supplied cutting fluid (WA wood, 57 F Cutting oil) using a handheld swab and weighed a second time to determine the amount of soil added.

The top three product from the previous trial were poured into a bowl and three coupons were dunked into the solution at a constant rate for 30 seconds of cleaning. The coupons were then put on a tray and when done and allowed to air dry. There was no rinse. The process was done to as closely replicate the process used on site as possible. Once dry, final weights were recorded, and efficiency calculated for each coupon cleaned.

Results: The three products had limited success in 30 seconds of manual cleaning at 10% dilutions. No product removed more than 50% of the cutting fluid. The table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Inproclean 3800	0.3433	0.2335	31.98
	0.4341	0.1973	54.55
	0.2236	0.1962	12.25
SC Aircraft	0.2390	0.2337	2.22
	0.2773	0.2159	22.14
	0.3501	0.2764	21.05
Aquavantage 1400	0.5817	0.2683	53.88
	0.2313	0.1311	43.32
	0.3011	0.2066	31.38

Summary:

Substrates:	Aluminum				
Contaminants:	Cutting/Tapping Fluids				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Oakite Products	Inproclean 3800	10	32.93	☐	
Gemtek Products	SC Aircraft & Metal Cleaner Super Concentrate	10	15.15	☐	
Brulin Corporation	Aquavantage 1400	10	42.86	☑	

Conclusion: Products concentrations will be increased, and additional products will be added to the testing for the final supplied contaminant - rust preventative. Follow up testing will be performed on the cutting fluid using higher concentrations.