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 first supplied soil.

Experimental Procedure: Six products were selected based on previous lab testing for similar cleaning scenarios. Four products were used at 10% dilution and two were used at full strength. Preweighed coupons were coated with the supplied grinding fluid (Houghton - Grind (HOUC 420060) using a handheld swab and weighed a second time to determine the amount of soil added.

Each cleaner was put in 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: One product, SC Aircraft & Metal Cleaner, performed very well in the 30 second cleaning, removing over 90% of the grinding fluid. Two other products others had mixed results, removing less than 60% but more than half of the fluid. There were two products that resulted in a drastic increase in weight during the final weighing. This was due to the cleaning product being left on the surface after cleaning. These two products will not be tested further. The table lists the initial amount of cutting fluid, the amount remaining after cleaning and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Inproclean 3800	0.1177	0.0531	54.89
	0.0717	0.0302	57.88
	0.1050	0.0375	64.29
Sea Wash 8	0.2300	0.5925	-157.61
	0.1422	0.9669	-579.96
	0.1425	0.2945	-106.67
SC Aircraft	0.2288	0.0086	96.24
	0.2404	0.0095	96.05
	0.1876	0.0237	87.37
Aquavantage 1400	0.0951	0.0641	32.60
	0.2186	0.0884	59.56
	0.2274	0.0773	66.01
DS 108	0.1931	0.0821	57.48
	0.1269	0.0751	40.82
	0.1106	0.0739	33.18
D Greeze 500LO	0.2971	0.2483	16.43
	0.1625	0.2531	-55.75
	0.1220	0.2754	-125.74

Summary:

Substrates:	Aluminum				
Contaminants:	Cutting/Tapping Fluids				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Oakite Products	Inproclean 3800	10	59.02	☑	
Warren Chemical Company	Sea Wash 8	10	-281.41	☐	
Gemtek Products	SC Aircraft & Metal Cleaner Super Concentrate	10	93.22	☑	

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Brulin Corporation	Aquavantage 1400	10	52.72	☑	
Dysol	DS 108 Wipe Solvent	100	43.83	☐	
Transene Company, Inc.	D Greeze 500 LO	100	-55.02	☐	

Conclusion: Three products will be tested on the supplied cutting fluid under the same conditions.