CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2008

DateRun: 06/25/2008

Experimenters: Jason Marshall, Shweta Bansal

ClientType: Tool Manufacturer

ProjectNumber: Project #1

Substrates: Steel

PartType: Part

Contaminants: Metal fines

Cleaning Methods: Ultrasonics

Analytical Methods: Visual

Purpose: To evaluate five products at higher concentrations.

Experimental Procedure: The top five products were selected from the previous lab trial. Products were diluted to 10% using DI water in 300 ml glass beakers. Solutions were used at 68 F. The beakers were immersed in a water bath in a Branson 40 kHz ultrasonic tank. Products were degassed for five minutes.

A set of three soiled steel parts (with metal grit/fines) were immersed into each product and cleaned for 5 minutes and another set for 10 minutes using ultrasonic agitation. Following cleaning, coupons were observed for cleanliness.

Results: As in the previous trial Daraclean 282 GF cleaned parts at both 5 and 10 minutes were visually the cleanest. M Aero provided the second cleanest parts followed by Metalnox M6310. The table lists the rankings for each product at both cleaning times. The increase in concentration yielded parts that were cleaner than at the 5% dilution.

Product	5 Min Rank	10 Min Rank
Micro 90	5	5
790xs	4	4
282 GF	1	1
M6310	3	3
M Aero	2	2

Summary:

Substrates:	Steel				
Contaminants:	Metal fines				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
International Products Corporation	Micro 90 Conc.	10	0.00	☐	
US Polychem Corporation	Polyspray Jet 790 XS	10	0.00	☐	
Magnaflux	Daraclean 282 GF	10	0.00	☑	
Kyzen Corporation	Metalnox M6310 (For Comparison Only)	10	0.00	☑	
Church & Dwight Co Inc.	Armakleen M Aero	10	0.00	☑	

Conclusion: Parts were cleaner after 10 minutes of ultrasonic cleaning at a 10% dilution. Daraclean 282 GF was the most effective cleaner. Another parts cleaning trial will be conducted using both concentrations for the cleaning products but will increase the temperature to 130 F. Photos of parts are included below for 5 and 10 minute cleaning at 10%.