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: Cutting/Tapping Fluids, Lubricating/Lapping Oils

Cleaning Methods: Ultrasonics

Analytical Methods: Visual

Purpose: To evaluate past effective products on second set of supplied parts contaminated with cutting and lubricants.

Experimental Procedure: The top five products were selected from the previous lab trial. Products were diluted to 5% using DI water in 300 ml glass beakers. Water also was used. Solutions were heated to 130 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 (coated with cutting fluids and lubricants) were immersed into each product and cleaned for 5 minutes using ultrasonic agitation. Following cleaning, coupons were observed for cleanliness.

Results: The Daraclean 282 GF cleaned parts at both 5 and 10% dilutions at 130 F were visually the cleanest. At 5%, Micro 90 was the next cleanest followed by Polyspray Jet 790 XS. At 10%, Polyspray Jet 790xs was the second most effective product followed by M Aero.

Product	5 Min Rank	10 Min Rank
Micro 90	2	4
790xs	3	2
282 GF	1	1
M6310	5	5
M Aero	4	3
Water	6	6

Summary:

Substrates:	Steel				
Contaminants:	Cutting/Tapping Fluids, Lubricating/Lapping Oils				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
International Products Corporation	Micro 90 Conc.	5	0.00	☑	
US Polychem Corporation	Polyspray Jet 790 XS	5	0.00	☑	
Magnaflux	Daraclean 282 GF	5	0.00	☑	
Kyzen Corporation	Metalnox M6310 (For Comparison Only)	5	0.00	☐	
Church & Dwight Co Inc.	Armakleen M Aero	10	0.00	☑	
Water	Water	100	0.00	☐	

Conclusion: Parts cleaned with Daraclean 282 GF were the cleanest in all of the parts cleaning trials conducted. Piloting with this product, Polyspray 790xs and Armaklean M Aero (the top three products overall) is recommended. Photos of parts are included below for 5 and 10% cleaning at 5 minutes and 130 F.