CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2008

DateRun: 08/06/2008

Experimenters: Heidi Wilcox, Shweta Bansal

ClientType: Machining Company

ProjectNumber: Project #1

Substrates: Steel

PartType: Coupon

Contaminants: Coatings

Cleaning Methods: Ultrasonics

Analytical Methods: Gravimetric

Purpose: To evaluate aqueous alternatives using ultrasonic energy on second supplied contaminant.

Experimental Procedure: Six products from previous trials were selected for testing. Five of the products were diluted to 20% and the sixth product was diluted to 5%. Products were heated to 130 F and immersed in a Branson 40 kHz ultrasonic tank and degassed for at least five minutes.
Eighteen preweighed coupons were coated with the supplied rust preventative using a handheld swab and weighed a second time to determine the amount of soil added. Three coupons were cleaned with ultrasonic energy for five minutes, rinsed in tap water for 15 seconds at 120 F and dried using compressed air at room temperature for 30 seconds. Final weights were recorded, and efficiencies calculated for each coupon cleaned.

Results: All six products removed more than 85% of the rust preventative, five of which removed more than 97%. The table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Shopmaster LpH	0.2113	0.0024	98.86
	0.1915	0.0065	96.61
	0.1883	0.0083	95.59
Aquavantage 1400 GD	0.2512	0.0046	98.17
	0.2158	0.0040	98.15
	0.2592	-0.0037	101.43
Shopmaster HP	0.2616	0.0286	89.07
	0.2433	0.0361	85.16
	0.2283	0.0221	90.32
Inproclean 3800	0.2791	0.0065	97.67
	0.2603	-0.0034	101.31
	0.2445	0.0022	99.10
Bio T 300 B	0.2305	0.0188	91.84
	0.2645	-0.0003	100.11
	0.2121	0.0044	97.93
SC Aircraft & Metal Cleaner	0.2868	0.0040	98.61
	0.2760	-0.0033	101.20
	0.2607	-0.0005	100.19

Summary:

Substrates:	Steel				
Contaminants:	Coatings				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Buckeye International	Shopmaster LPH	20	97.02	☑	
Brulin Corporation	Aquavantage 1400	20	99.25	☑	
Buckeye International	Shopmaster HP	20	88.18	☑	
Oakite Products	Inproclean 3800	20	99.36	☑	
Bio Chem Systems	Bio T 300 B	5	96.63	☑	

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Gemtek Products	SC Aircraft & Metal Cleaner Super Concentrate	20	100.00	☑	

Conclusion: All six will be evaluated next on the supplied grinding fluid.