CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2002

DateRun: 04/11/2002

Experimenters: Jason Marshall

ClientType: Cleaning Equipment Mfr

ProjectNumber: Project #2

Substrates: Stainless Steel

PartType: Coupon

Contaminants: Cutting/Tapping Fluids, Greases, Lubricating/Lapping Oils, Oil

Cleaning Methods: Ultrasonics

Analytical Methods:

Purpose: Follow up evaluation of spray rinse.

Experimental Procedure: Fifteen preweighed coupons were coated with four contaminants from the previous trials. Three coupons were coated with the different contaminants. Bencyn B-5186 (64742-52-5, 9003-29-6, 39464-69-2, 63197-48-8), The Valvoline Co, Tectyl 505 (8052-41-3), C.A. Wood C-Eblis Cutting Fluid (64742-53-6, 64742-52-5) and ITW Devcon Safetap Stick grease. Coupons were reweighed. The fifteen coupons were hung on a metal stand and immersed into a Crest 40 kHz ultrasonic tank and cleaned for 1 minutes using ultrasonics at 92 F, removed and rinsed in a tap water bath and re-immersed into the ultrasonics for an additional 1 minute followed by a second 5 second rinse. The coupons were then dried using an air knife for 15 seconds.

Results: None of the contaminants were removed to any great extent under these cleaning/rinsing methods. Three of the four were removed between 70 and 80% of the contaminant. The Bencyn contaminant was only removed at 17%.

Cleaner	Coupon 1	Coupon 2	Coupon 3	Average	Std Dev
Bencyn	29.62	16.95	3.99	16.85	12.82
Tectyl	74.97	65.82	71.53	70.77	4.62
C-Eblis	76.66	73.7	82.65	77.67	4.56
Safetap	89.47	69.41	79.29	79.39	10.03

Summary:

Substrates:	Stainless Steel				
Contaminants:	Cutting/Tapping Fluids, Greases, Lubricating/Lapping Oils, Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Water	Water	100	16.85	☐	Bencyn
Water	Water	100	70.77	☐	Tectyl
Water	Water	100	77.67	☐	C-Eblis
Water	Water	100	79.39	☐	Safetap

Conclusion: Using ultrasonic cleaning in conjunction without a spray rinse was shown not to be an effective cleaning process for the four contaminants.