CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2002
DateRun:	01/07/2002
Experimenters:	Jason Marshall
ClientType:	Metal Working
ProjectNumber:	Project #1
Substrates:	Aluminum
PartType:	Coupon
Contaminants:	Lubricating/Lapping Oils
Cleaning Methods:	Ultrasonics
Analytical Methods:	Gravimetric
Purpose:	To evaluate client supplied alternative cleaner
Experimental Procedure:	The supplied cleaner was diluted into two 600 ml beakers, both to 5% using DI water and heated to 130 F on a hot plate. One beaker was immersed into a Crest 40 kHz ultrasonic tank and degassed for 5 minutes. Six preweighed coupons were coated with the Fuch's Renocut 127 and allowed to sit for 1 hour. At the end of the hour, the coupons were weighed again to determine the amount of contaminant added to the coupons. Three coupons were immersed in each beaker and cleaned for 5 minutes, then rinsed with DI water at 120 F for 30 seconds and finally dried using a Master Chemical Heat Gun at 500 F for 1 minute. The coupons were weighed again and efficiencies were calculated.
Results:	The ultrasonic cleaning appeared to rinse better the immersion cleaned coupons. The results for each coupon are listed in the following table.

Table 1. Cleaning Efficiencies

Evercylce	Immersion	Ultrasonic
Coupon 1	97.79	99.99
Coupon 2	94.86	99.44
Coupon 3	96.15	99.87
Average	96.27	99.77
Std Dev	1.47	0.29

Both Immersion cleaning and the ultrasonic results were about the same as the results from the previous trials, as shown in the second table.

Table 2. Results from previous trials

	Immersion	Ultrasonic
Brulin	98.88	99.12
Buckeye	93.91	97.15
Envirosolutoins	92.7	98.84
Gemtek	98.13	96.89
Innovative	97.3	99.62
Savogran	91.04	N/T
Today	97.9	99.9
Valtech	99.24	99.99
Texo	92.22	99.71

Summary:

Substrates:	Aluminum				
Contaminants:	Lubricating/Lapping Oils				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
CAE Cleaning Technologies - No Longer Exists	Evercycle 2000 - For Comparative Purposes Only	5	96.27	☑	Immersion
CAE Cleaning Technologies - No Longer Exists	Evercycle 2000 - For Comparative Purposes Only	5	99.77	☑	Ultrasonics

Conclusion: The CAE Cleaning Technologies was as successful as the other products evaluated previously in the lab.