CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2002

DateRun: 04/03/2002

Experimenters: Jason Marshall

ClientType: Cleaning Equipment Mfr

ProjectNumber: Project #2

Substrates: Stainless Steel

PartType: Coupon

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

Cleaning Methods: Ultrasonics

Analytical Methods:

Purpose: 2nd contaminant cleaning

Experimental Procedure: Eighteen preweighed coupons were coated with The Valvoline Co, Tectyl 505 (8052-41-3) rust preventative, using a hand held swab. Coupons were reweighed. Nine coupons were clipped to wire racks and immersed into the Flow-Matic machine and cleaned for 1 minutes using ultrasonics at 92 F, removed and rinsed in a tap water spray and re-mmersed into the ultrasonics for an additional 1 minute followed by a second 5 second rinse. The nine coupons were then dried using an air knife for 15 seconds and then using a Master Appliance heat gun at 500 F for 15 seconds. The second set of nine coupons followed the same cleaning cycle except they were hung on a wire stand and immersed into a Crest 40 kHz ultrasonic tank.

Results: Comparison of the two processes revealed that the Flow-Matic system was more effective than the traditional ultrasonic equipment. The following table lists the results obtained during the evaluation.

Table 1. Cleaning Efficiencies

Process	Flow-Matic	Traditional
	99.93	99.46
	99.93	98.41
	98.97	98.90
	99.53	98.94
	99.95	96.30
	100.04	97.40
	99.24	97.45
	100.12	98.71
	100.06	99.51
Average	99.75	98.34
Std Dev	0.41	1.08

Summary:

Substrates:	Stainless Steel				
Contaminants:	Coatings, Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Water	Water	100	98.34	☑	Traditional system
Water	Water	100	99.75	☑	Flow-Matic system

Conclusion: The Flow-Matic system was more effective than the traditional ultrasonic method.