CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 1999

DateRun: 01/18/1999

Experimenters: Jason Marshall

ClientType: Electronics Manufacturer

ProjectNumber: Project #1

Substrates: Teflon

PartType: Coupon

Contaminants: Lubricating/Lapping Oils

Cleaning Methods: Mechanical Agitation

Analytical Methods: Visual

Purpose: To replace mineral spirits with an aqueous cleaner.

Experimental Procedure: Four cleaning chemistries were selected based on the labs Effective Test Conditions Database and from vendor supplied information. Five percent solutions were made into 600 mL beakers and heated to 130 F. The contaminated parts and shavings were submerged into the cleaning solutions. The cleaning solution and parts were poured into an empty beaker and then back into the original beaker. This pouring was continued for two minutes. Parts were then rinsed in two tap water rinses at 120 F. Parts and shavings were then air dried using. Observations were made to determine which cleaner worked the best. Evaluations were based on how white the shavings were after the parts sat for two hours.

SUBSTRATE MATERIAL: Teflon parts and shavings
CONTAMINANTS: Oil-lubricating oil (CAS # 64742-53-6, 64742-52-5)

Results: After the two rinsing stages, it was noted that there was still oil left on the parts and the shavings. Table 1 lists the cleaning solutions and their results after the two hour period.

Table 1. Cleaning Chemistry Ranking

PRODUCT	RANKING
Oakite Inproclean 3800	3
Star Cleaning Miracle #50	4
SWR Corp SWR One	2
AW Chesterton KPC 820 N	1

Summary:

Substrates:	Teflon				
Contaminants:	Lubricating/Lapping Oils				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Oakite Products	Inproclean 3800	5	3.00	☐	Rank
By Pas and Star Products	Star Cleaning Miracle # 50	5	4.00	☐	Rank
SWR Corporation	SWR One	5	2.00	☐	Rank
AW Chesterton	KPC 820 N	5	1.00	☑	Rank

Conclusion: Although there was still some oil remaining on the parts and shavings, the AW Chesterton product appeared to have good removal of the contaminant. Further testing will be run using a 40 kHz ultrasonic cleaning tank.