CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2000

DateRun: 03/27/2000

Experimenters: Jason Marshall

ClientType:

ProjectNumber: Project #1

Substrates: Brass

PartType: Coupon

Contaminants: Buffing/Polishing Compounds

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To further evaluate cleaners from previous trial on second buffing compound.

Experimental Procedure: Four cleaners were selected based on the results of the previous trial. The chemistries were diluted to 5% in 600 ml beakers using DI water and then heated to 130 F on a hot plate. Twelve preweighed brass coupons were contaminated with the buffing compound and weighed again. Three coupons were cleaned in one solution for five minutes using stir-bar agitation. Coupons were rinsed in tap water at 120 F for 30 seconds and dried using a Master Appliance Corp, Hot-air gun model HG-301A at 500 F for one minute. After coupons returned to room temperature, final clean weights were recorded and the percent efficiency was calculated.

SUBSTRATE MATERIAL: Brass Coupons
CONTAMINANTS: Matchless Metal Polishing Co. Z-230 Buffing compound (7429-90-5)
CONTAMINATING PROCESS USED: Manual rub of buffing compound onto coupons

Results: All four products tested were very successful in removing the second buffing compound from the brass coupons. The U.S. Polychem Polyspray Jet 790 P again removed all of the contaminant. (The efficiencies were over 100% and was due to the buffing compound removing some of the oxidation that had occurred on the coupons). The other three cleaners removed over 87% of the buffing compound. Table 2 lists the efficiencies for each cleaner evaluated.

Table 2. Cleaning Efficiencies

Cleaner	Micro 90	Inproclean	Polyspray	Daraclean
Coupon 1	90.38	94.9	101.32	96.1
Coupon 2	90.83	90.32	102.13	80.94
Coupon 3	90.91	91.18	101.57	84.94
Average	90.71	92.13	101.68	87.33

Summary:

Substrates:	Brass				
Contaminants:	Buffing/Polishing Compounds				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
International Products Corporation	Micro 90 Conc.	5	90.71	☑	
Oakite Products	Inproclean 3800	5	92.13	☑	
US Polychem Corporation	Polyspray Jet 790 P	5	101.68	☑	
Magnaflux	Daraclean 282 GF	5	87.33	☑	

Conclusion: Having determined that all of the cleaners were effective in removing the buffing compound using only simple immersion agitation, all four will be used to clean the supplied parts in a Crest 40 kHz ultrasonic tank model 4Ht 1014-6.