CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 1999

DateRun: 12/20/1999

Experimenters: Jason Marshall

ClientType: Medical Instrument Mfr

ProjectNumber: Project #1

Substrates: Stainless Steel, Steel

PartType: Part

Contaminants: Buffing/Polishing Compounds, Pitch

Cleaning Methods: Ultrasonics

Analytical Methods: Visual

Purpose: To evaluate potential cleaners on the supplied parts.

Experimental Procedure: The eight chemistries were selected based on the previous trial results. Five of these products were diluted to five percent and one to two percent by volume in 600 ml beakers using DI water. These six solutions were heated to 130 F on a hot plate. The other two were used at full strength at room temperature. Table 1 lists the products evaluated and the contaminants removed (1, 2, 3, or 4). Parts were cleaned for three minutes in a beaker using a Crest 40 kHz ultrasonic tank model 4Ht 1014-6. Coupons were rinsed in DI water at 130 F for 30 seconds and dried using a Master Appliance Corp, Hot-air gun model HG-301A at 500 F for one minute. After the parts were dry, visual analysis was used to determine how effective the cleaning was.

SUBSTRATE MATERIAL: Steel block with inserts, Stainless Steel Scissors
CONTAMINANTS:
1-Pitch, Universal Photonics #48 Transparent Pitch (C19H29COOH w/ Hydrocarbon resins & natural materials);
2-Buffing compound, Lea Manufacturing Co, Learok 8-B-106 (CAS#s: 1309-37-1,1344-28-1;14808-60-7;
3-Buffing compound Jackson-Lea Manufacturing Co, 6B-71(CAS#:1344-28-1);
4-Buffing compound Jackson-Lea abrasive polishing & buffing compound, LTPL-22A (CAS#: 1344-28-1,9000-70-8)
CONTAMINATING PROCESS USED: Parts received contaminated.

Results: Envirosolutions was better at removing the pitch from the steel block than Safe Sciences was. The inserts were still attached to the block after three minutes.
Most of the scissors cleaned using the aqueous products looked very clean. A couple of the cleaners, Valtech and U.S. Polychem, had a little difficulty in removing buffing compound from the screw slot located at the pivot point of the scissors. The long handled scissors were not completely cleaned due to the size of the beakers.

Summary:

Substrates:	Stainless Steel, Steel				
Contaminants:	Buffing/Polishing Compounds, Pitch				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Oakite Products	Inproclean 3800	5	0.00	☑	Cont 2 and 4
Texo Corporation	Texolite 1734 XL	5	0.00	☑	Cont 2 and 3
US Polychem Corporation	Polychem A 2000 XS	5	0.00	☐	Cont 2 and 3
Valtech Corporation	Valtron SP 2250 2LF	5	0.00	☐	Cont 4
Magnaflux	Daraclean 282 GF	5	0.00	☑	Cont 4
International Products Corporation	Micro 90 Conc.	2	0.00	☑	Cont 3
Safe Science Inc	Safe Science Engine Degreaser (Industrial)	100	0.00	☐	Cont 1
Bio Chem Systems	Bio T Max	100	0.00	☑	Cont 1

Conclusion: Parts cleaned have been labeled and sent to the client for analysis.