CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	1999
DateRun:	06/24/1999
Experimenters:	Jason Marshall
ClientType:	Microelectronics Mfr
ProjectNumber:	Project #1
Substrates:	Plastic, Stainless Steel
PartType:	Part
Contaminants:	Fluxes, Resins/Rosins
Cleaning Methods:	Immersion/Soak
Analytical Methods:	Visual, Wipe
Purpose:	To evaluate successful cleaner on actual parts.
Experimental Procedure:	The cleaning solution was used at full strength and room temperature. The solution was poured into the cup (and the plastic section) and allowed to sit for an hour. Observations were made every 15 minutes. At each interval the part was wiped using a paper towel to determine if any of the contaminant was easily removed. The cover to the cup was also cleaned. The lid was immersed in the cleaning solutions and observed every15 minutes. After the hour of cleaning was complete, the cup was soaked for a total of eight hours at room temperature. With observations made after four hours. The product tested was: Envirosolutions Bio-T Max (Semi-Aqueous Terpene). MATERIAL: Stainless Steel 316--electropolished parts; Polypropylene part CONTAMINANTS: Olin HNR 120 Negative Photoresist (CAS#s: 1330-20-7 [65-70%]; 100-41-4 [15-18%]; 68441-13-4 [9-15%]; 5284-79-7 [0.1-0.6%])
Results:	Due to the size and shape of the part and the amount of cleaning sample available, the entire cup could not be submersed into the cleaning solution. The sections that were in contact with the cleaner showed signs of dissolving after the first 15 minute interval. After a couple of hours, the contaminant was easily wiped off with a paper towel. At the end of the eight hours of soaking, most of the negative photoresist in contact with the cleaning solution had been dissolved. Once the solution was drained out of the cup, the remaining residue was wiped out with a paper towel and rinsed with a tap water spray for a couple of minutes. The lid was cleaned within an hour of soaking. Very little wiping was needed to remove any remaining contaminant. The lid was rinsed with a tap water spray at 100 F for one minute.

Summary:

Substrates:	Plastic, Stainless Steel				
Contaminants:	Fluxes, Resins/Rosins				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Bio Chem Systems	Bio T Max	100	0.00	☑	

Conclusion: Envirosolutions Bio-T Max has shown to be successful in dissolving the negative photoresist from the stainless steel cup and lid as well as the polypropylene section of the cup. Due to the amount of cleaner on hand in the lab, only the lid was easily immersed completely into the solution allowing for complete removal of the contaminant. The cup was only partially subjected to the cleaning solution, limiting the overall cleaning of the cup. The cup section has been returned to the client for examination.