CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2007

DateRun: 07/08/2007

Experimenters: Jason Marshall

ClientType: Metal Working

ProjectNumber: Project #1

Substrates: Copper, Stainless Steel, Steel

PartType: Part

Contaminants: Oil

Cleaning Methods: Immersion/Soak

Analytical Methods: Visual

Purpose: To clean supplied parts using drop-in vapor degreasing solvents.

Experimental Procedure: Six drop-in vapor degreasing solvents were selected from the lab's on-line database, www.cleanersolutions.org, based on product classification types and past performance on similar contaminants. Each solution was used at full strength at room temperature (68F) in a 300 ml glass beaker. Cleaning lasted for 5 minutes using no agitation. Parts were not rinsed and were air dried at room temperature prior to packaging, roughly 2 minutes. Parts were visually inspected to determine relative effectiveness.

Results: Only two products left any kind of residue behind. Both 3M 7200 and Dow OS 30 left an oily film inside the copper cups. The 3M product left behind the most oil. The other four products cleaned all parts with no visual problems.

After three days of sitting, observations were made to determine the amount of rusting that has occurred, if any, on the cleaned parts.

Product	Classifications	Observations at 4 days
HFE 7200	Hydrofluroether (HFE)	Some minor rusting
Lenium CP	n-Propyl Bromide-HFE mix	Minor rust spots
Ensolv	nPB	Some minor rusting
AK 225	Hydro Chloro Fluoro Carbon (HCFC)	No rusting
Vertrel MCA	Hydro Fluoro Carbon (HFC)	No rusting
OS 30	Methyl Siloxane	No rusting

Summary:

Substrates:	Copper, Stainless Steel, Steel				
Contaminants:	Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
3M	HFE 7200	100	0.00	☐	
Petroferm Inc	Lenium CP (no longer available)	100	0.00	☑	
Enviro Tech International Inc	Ensolv	100	0.00	☑	
AGA Chemical	AK 225	100	0.00	☑	
DuPont	Vertrel MCA	100	0.00	☑	
Dow Chemical Company	OS 30	100	0.00	☐	

Conclusion: Four of the six products were effective in removing the various oils from the different parts that were supplied for cleaning.