

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 1999  
 DateRun: 02/25/1999  
 Experimenters: Jason Marshall  
 ClientType: Brazing-Heat Treating  
 ProjectNumber: Project #1  
 Substrates: Carbon Steel, Stainless Steel  
 PartType: Part  
 Contaminants: Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil  
 Cleaning Methods: Immersion/Soak  
 Analytical Methods: Visual

Purpose: To evaluate possible replacement cleaners for Trichloroethylene.

Experimental Procedure: Four cleaners were selected by the client through the use of the lab's database search performed previously by the client. Ten to 15 parts were suspended on wire and then immersed into the cleaners at room temperature. Parts were cleaned for two minutes without agitation. At the end of the cleaning, the parts were removed and were dried for 30 seconds using a Master Appliance Corp, Hot-air gun model HG-301A at ambient conditions. Parts were observed at two different intervals for cleanliness. The first was at the one-minute mark and the other was after parts were dry. These parts were then returned to the client for inspection.

SUBSTRATE MATERIAL: Metal Parts - Carbon Steel, Stainless Steel  
 CONTAMINANTS: Metal Preserving Oil & Quenching Oil

Results: All four cleaners required less than the two minutes for cleaning. Cleaning was actually completed in less than one minute. A residue was on the parts from all the cleaners except D-Greeze 500. There was no oil remaining on the parts. Table 1 lists the observations made during the cleaning trial.

Cleaner	Minimum Time	Oil Remaining	Cleaner Residue
Methyl Ester	1 minute	NO	YES
D-Greeze 500	< 1 minute	NO	NO
Inproclean 4000 T	1 minute	NO	YES
Vortex	< 1minute	NO	YES

Summary:

<b>Substrates:</b>	Carbon Steel, Stainless Steel				
<b>Contaminants:</b>	Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil				
<b>Company Name:</b>	<b>Product Name:</b>	<b>Conc.:</b>	<b>Efficiency:</b>	<b>Effective:</b>	<b>Observations:</b>
Twin Rivers Technologies	Methyl Ester 1618	100		<input checked="" type="checkbox"/>	
Transene Company, Inc.	D Greeze 500 LO	100		<input checked="" type="checkbox"/>	
Oakite Products	Inproclean 4000 T	100		<input checked="" type="checkbox"/>	
EcoLink	Vortex	100		<input checked="" type="checkbox"/>	

Conclusion: All four cleaners were effective in removing the oils from the parts at room temperature in under one minute. The residues left behind could be removed if the parts were briefly rinsed.