CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2011

DateRun: 03/07/2011

Experimenters: Heidi Wilcox, Junhee Cho

ClientType:

ProjectNumber: Project #1

Substrates: Ceramics, Stainless Steel

PartType: Coupon

Contaminants: Adhesive

Cleaning Methods: Immersion/Soak

Analytical Methods:

Purpose: To find a substitution for M.E.K. as a cleaning agent to remove adhesive

Experimental Procedure: Four products were selected from the lab's on-line database, www.cleanersolutions.org, based on past testing results matching client supplied information. Two products were used at full strength as recommended by the vendor and two products were diluted to 5% in 600 ml beakers. Four sets of twelve pre-weight ceramic and stainless steel coupons were coated with the supplied adhesive soil using a hand held swab. The coating was allowed to dry for one day at room temperature. Once dry, the coupons were weighed a second time to determine the amount of soil applied.
Three coupons were immersed into each solution and cleaned for 15 minutes using stir-bar agitation. All four products were used at room temperature.
After cleaning process, each coupon was wiped with paper towel manually. Final weights were recorded and efficiencies were calculated for each coupon cleaned.

Results: In this study, visual analysis was conducted for the ceramic coupons instead of gravimetric analysis because these coupons may absorb the cleaner excessively. This makes gravimetric results inconclusive. However, for stainless steel coupons, gravimetric analysis was conducted.

Visual Table	
Cleaner	Observation
Bio T Max	5~10% removed
Biosolv	80~85% removed
ND LF Supreme	70~75% removed
Amberclean SC11	5~10% removed

Gravimetric Table			
Cleaner	Initial wt	Final wt	% Removed
Bio T Max			
	0.3018	0.2367	21.57
	0.1972	0.1804	8.52
	0.4045	0.3226	20.25
Bio- Solv			
	0.2169	0.0039	98.2
	0.253	0.0137	94.58
	0.2501	0.0174	93.04
ND Supreme			
	0.3551	0.2969	16.39
	0.2874	0.2411	16.11
	0.1979	0.1734	12.38
Amberclean sc11			
	0.363	0.2716	25.18
	0.2446	0.2055	15.99
	0.2046	0.1715	16.18

Summary:

Substrates:	Ceramics, Stainless Steel
Contaminants:	Adhesive

Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Bio Chem Systems	Bio T Max	100	16.78	☐	
Phoenix Resins Inc	BioSolv	100	95.28	☑	

CLEANING LABORATORY EVALUATION SUMMARY

MacDermid Industrial Products	ND Supreme	5	14.96	☐	
Innovative Organics Inc	Amberclean SC 11	5	19.11	☐	

Conclusion: Bio Solv were effective to remove the adhesive soil on ceramic and stainless steel coupon with immersion cleaning. It may be possible substitute for M.E.K in current cleaning process.