CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2004
DateRun:	08/25/2004
Experimenters:	Jason Marshall
ClientType:	Jewelry Mfr
ProjectNumber:	Project #1
Substrates:	Brass
PartType:	Coupon
Contaminants:	Buffing/Polishing Compounds
Cleaning Methods:	Immersion/Soak
Analytical Methods:	Gravimetric
Purpose:	To evaluate drop-in solvents on second supplied contaminant mix.
Experimental Procedure:	Eleven products were selected from the previous test results. Each product was used at full strength in 250 ml beakers at room temperature. Thirty-three preweighed CDA260 Brass coupons were coated with the second supplied buffing/milling compound mix using a hand held swab. Coupons were allowed to sit overnight and weighed a second time to determine the amount of soil added to each coupon. Three coupons were cleaned in each product for 5 minutes with no agitation. Coupons were air dried at room temperature. Once coupons were dry, final weights were recorded and efficiencies were calculated.
Results:	All but one product (Vertrel MCA) removed over 80% of the contaminant within 5 minutes using immersion with no agitation. One product, Metalnox M6960 removed just over 90%. The table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Flux Remover C	0.4062	0.0686	83.11
	0.4326	0.0690	84.05
	0.5017	0.0782	84.41
Ensolv	0.3851	0.0524	86.39
	0.3975	0.0517	86.99
	0.4467	0.0585	86.90
Ensolv A	0.4436	0.0582	86.88
	0.4752	0.0781	83.56
	0.5591	0.0598	89.30
Lenium ES	0.5654	0.0619	89.05
	0.4288	0.0540	87.41
	0.6037	0.0514	91.49
Lenium GS	0.6401	0.0717	88.80
	0.7352	0.0668	90.91
	0.5485	0.0645	88.24
Metalnox M6960	0.6118	0.0404	93.40
	0.5341	0.0518	90.30
	0.3361	0.0404	87.98
Solvon PB	0.5595	0.0584	89.56
	0.5377	0.0811	84.92
	0.6142	0.0746	87.85
solvon IP	0.3892	0.0678	82.58
	0.4079	0.0648	84.11
	0.4801	0.0604	87.42
Vertrel CCA	0.6162	0.0875	85.80
	0.4066	0.0776	80.91
	0.6579	0.0851	87.06
Vertrel MCA	0.3292	0.1016	69.14
	0.3669	0.0843	77.02
	0.3679	0.0872	76.30
HFE 71DE	0.7006	0.1130	83.87

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	0.4528	0.0738	83.70
	0.2909	0.0735	74.73

Summary:

Substrates:	Brass
Contaminants:	Buffing/Polishing Compounds

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Micro Care	Flux Remover C	100	83.86	☑	
Enviro Tech International Inc	Ensolv	100	86.76	☑	
Enviro Tech International Inc	Ensolv A	100	86.58	☑	
Petroferm Inc	Lenium ES	100	89.31	☑	
Petroferm Inc	Lenium GS	100	89.32	☑	
Kyzen Corporation	Metalnox M6960	100	90.56	☑	
Poly Systems USA Inc	Solvon Kreussler PB	68	87.44	☑	
Poly Systems USA Inc	Solvon Kreussler IP	100	84.70	☑	
DuPont	Vertrel CCA	100	84.59	☑	
DuPont	Vertrel MCA	100	74.15	☐	
3M	HFE 71DE	100	80.77	☑	

Conclusion:

The Kyzen Metalnox M6960 and Petroferm Lenium ES products will be used to clean the supplied parts. Parts will be cleaned using a beaker vapor degreaser.