CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2004

DateRun: 04/29/2004

Experimenters: Jason Marshall

ClientType: Capacitor Manufacturer

ProjectNumber: Project #1

Substrates: Aluminum

PartType: Coupon

Contaminants: Oil

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate five new products on the fourth supplied soil.

Experimental Procedure: Five products were selected based on client request for vapor degreasing solvents. Each product was used at full strength in a 250 ml beaker and heated to 96 F on a hot plate. Fifteen preweighed aluminum coupons were coated with the C.P. Hall Co. Plasthall ESO oil (8013-07-8) using a hand held swab. Coupons were weighed a second time to determine the amount of soil added to each coupon. Three coupons were cleaned in each solution for 5 minutes using stir-bar agitation. After cleaning parts were allowed to sit for 10 minutes for drying at room temperature. The coupons were weighed a final time and efficiencies were calculated.

Results: All five products removed over 98% of the second soil. The table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Ensolv	0.2123	0.0006	99.72
	0.0666	0.0000	99.92
	0.1815	0.0013	99.28
Ensolv A	0.0677	0.0023	96.60
	0.4607	0.0009	99.80
	0.2123	0.0021	99.01
Metalnox M6960	0.3355	0.0022	99.34
	0.1881	0.0004	99.79
	0.2439	0.0011	99.55
Flux Remover	0.4319	0.0030	99.31
	0.1482	0.0045	96.96
	0.1594	0.0032	97.99
Heavy DutyDegreaser C	0.2590	0.0032	98.76
	0.1133	0.0042	96.29
	0.2668	0.0005	99.81

Summary:

Substrates:	Aluminum
Contaminants:	Oil

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Enviro Tech International Inc	Ensolv	100	99.64	☑	
Enviro Tech International Inc	Ensolv A	100	98.47	☑	
Kyzen Corporation	Metalnox M6960	100	99.56	☑	
Micro Care	Flux Remover C	100	98.09	☑	
Micro Care	Heavy Duty Degreaser C	100	98.29	☑	

Conclusion: Eleven products have been tested on four soils using immersion cleaning. The next step in the evaluation will be to test products via vapor degreasing.