CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2007
DateRun:	05/14/2007
Experimenters:	Jason Marshall, Shweta Bansal
ClientType:	Metal
ProjectNumber:	Project #1
Substrates:	Alloys
PartType:	Coupon
Contaminants:	Lubricating/Lapping Oils
Cleaning Methods:	Immersion/Soak
Analytical Methods:	Gravimetric
Purpose:	To evaluate semi-aqueous products on the first supplied lubricant.

Experimental Procedure:

Three products from the previous trial were retested at 10% dilutions. In addition, six non-aqueous products were selected from the lab's on-line database, www.cleanersolutions.org based on client supplied information and past product performance. One product was diluted to with DI water to 10% in 600 ml beakers. The other five products were used at full strength. The cleaning solutions were all heated to 130 F on a hot plate.

Twenty-seven preweighed alloy coupons were coated with the first supplied lubricant and weighed a second time to determine the amount of contaminant added to each coupon. Three coupons were immersed into each solution and cleaned for 5 minutes using stir-bar agitation. Coupons were rinsed in room temperature tap water for 15 seconds and air dried using compressed dry air for 30 seconds. A final weight was recorded, and efficiencies were calculated for each coupon cleaned.

Results:

All five products used at full strength removed over 75% of the lubricant. Three of these removed over 93% and one of these (Solsafe 245) removed over 97%. The three products from the previous trial did not improve with an increase in concentration from 5 to 10%. The table below lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Micro 90	1.1948	0.6216	47.97
	1.1926	0.7440	37.62
	1.1380	0.6954	38.89
Ionox HC 2	1.2543	0.8456	32.58
	1.0725	0.7665	28.53
	1.5243	0.5292	65.28
Aquavantage 1400	1.0483	0.6334	39.58
	1.2284	0.7234	41.11
	1.0922	1.0026	8.20
SC Supersolve	1.8746	1.1165	40.44
	1.5725	0.9734	38.10
	1.6190	1.0192	37.05
Soy Gold 1100	0.9363	0.1518	83.79
	1.2886	0.1782	86.17
	1.3318	0.2678	79.89
Solsafe 245	1.2694	0.0235	98.15
	1.6363	0.0286	98.25
	1.5927	0.0427	97.32
Shopmaster RC	1.5022	0.0866	94.24
	1.9648	0.1115	94.33
	1.6057	0.1166	92.74
DS 108	1.4618	0.4115	71.85
	1.1213	0.1799	83.96
	1.2780	0.3799	70.27
D Greeze 500 LO	1.3857	0.0932	93.27
	1.2617	0.0827	93.45
	1.2530	0.0673	94.63

Summary:

CLEANING LABORATORY EVALUATION SUMMARY

Substrates:	Alloys
Contaminants:	Lubricating/Lapping Oils

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
International Products Corporation	Micro 90 Conc.	10	41.49	☐	
Kyzen Corporation	Ionox HC 2	10	42.13	☐	
Brulin Corporation	Aquavantage 1400	10	29.63	☐	
Gemtek Products	SC Supersolve Safety Solvent	10	38.53	☐	
AG Environmental Products	Soy Gold 1100	100	83.28	☑	
Bio Chem Systems	Solsafe 245	100	97.91	☑	
Buckeye International	Shopmaster RC	100	93.77	☑	
Dysol	DS 108 Wipe Solvent	100	75.36	☑	
Transene Company, Inc.	D Greeze 500 LO	100	93.78	☑	

Conclusion: The five semi-aqueous products will be evaluated for the cleaning of the second supplied contaminant under similar conditions.