CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2001

DateRun: 09/16/2001

Experimenters: Jason Marshall

ClientType: Metal

ProjectNumber: Project #1

Substrates: Steel

PartType: Coupon

Contaminants: Coatings

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: Evaluating previously tested products using gravimetric analysis

Experimental Procedure: Contaminants: Eight cleaners were selected based on the last previous trial. Two additional cleaners were used based on client's current cleaning practices. Each product was diluted to 5% with DI water in a 600 ml beaker. Thirty preweighed steel coupons were coated with the Rust Veto C3 using a hand held swab. The rust preventative was allowed to sit on the coupons for 10 minutes prior to being reweighed. Following the second weighing, three coupons were immersed into each solution and allowed to soak for 3 minutes at 130 F. At the end of the 3 minutes, each coupon was rinsed in a tap water bath at 120 F for 30 seconds and dried with a heat gun at 500 F for 1 minute. After the coupons cooled to room temperature, a final weight was recorded and cleaning efficiencies were calculated.

Rust Preventatives: Houghton Rust Veto C3

Results: All ten cleaners were very successful in removing the rust preventative from the steel coupons. The lowest cleaning efficiency was 95% (Bio Might 100) and the highest was 99.99% (Inproclean 3800). Six cleaners had efficiencies higher than the Certa Clean and three were more effective than the Dasco Clean. The following table lists the calculated results for each cleaner and its rank.

Table 1. Calculated Results

Cleaner	Coupon 1	Coupon 2	Coupon 3	Average	Std Dev	Rank
Bio Might	96.41	92.64	97.36	95.47	2.50	10
Grease Feast	94.39	97.69	97.68	96.59	1.90	9
SC Aircraft	99.32	99.13	98.57	99.01	0.39	5
Multikleen	99.56	99.26	99.96	99.59	0.35	2
Inproclean	100.00	100.00	99.97	99.99	0.02	1
Super Neutral	97.88	98.09	97.40	97.79	0.35	8
Beyond 2001	99.38	99.43	99.52	99.44	0.07	3
Sea Wash	98.20	99.60	98.35	98.71	0.77	6
Certa Clean	98.34	97.64	98.48	98.15	0.45	7
Dasco Clean	99.92	99.49	98.39	99.27	0.79	4

Summary:

Substrates:	Steel				
Contaminants:	Coatings				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Abatement Technologies	Bio Might 100 Cleaner - Degreaser	5	95.47	☐	
Ensolve Biosystems Inc	Grease Feast Plus	5	96.59	☐	
Gemtek Products	SC Aircraft & Metal Cleaner Super Concentrate	5	99.01	☑	
Heatbath Corporation	Multi-Kleen 1568	5	99.59	☑	
Oakite Products	Inproclean 3800	5	99.99	☑	
	Super Neutral	5	97.79		

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Safe CleanUp Solutions				☐	
Today & Beyond	Beyond 2001	5	99.44	☑	
Warren Chemical Company	Sea Wash 700 New	5	98.71	☑	
Houghton International	Cerfa Kleen 5387		98.15	☑	
DA Stuart Company	Dasco Kleen 3250		99.27	☑	

Conclusion: The six lab selected cleaners that performed better than Certa Clean will be used in the next trial. The second rust preventative from Stubbs will be the focus of the trial.