CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2003

DateRun: 09/14/2003

Experimenters: Jason Marshall

ClientType: Tool Manufacturer

ProjectNumber: Project #1

Substrates: Steel

PartType: Coupon

Contaminants: Coatings

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate successful cleaners from previous trials on second contaminant

Experimental Procedure: The eight products from the first trial were used again in this trial. Six products were used at full strength and two were products (Oakite Products and Gemtek Products) were used at 10%, diluted with DI water. Six products were used at room temperature and two products (Metabolix and Gemtek) were used at 120 F based on success from previous trial. Clean took place in 250 ml beakers with no agitation. The process utilized no water rinse and only used compressed air to dry/rinse the parts. Twenty-four preweighed steel coupons were coated with Rochester Midland Corp RI 780 (8052-41-3, 95-63-6) using a hand held swab. The coating then heated with a Master Appliance Heat gun at 300 F for 10 minutes. After cooling to room temperature, a second weighing was performed to determine the amount of soil that was added. Three coupons were cleaned in each solution for 5 minutes with no agitation. After drying with the air blow off, coupons were weighed a final time to determine the cleaning efficiencies of each product.

Results: All eight products removed over 88% of the coating from the steel coupons. Five removed over 92% of the coating. Solvent Kleene D Greeze 1000 was the most successful, removing 100% of the rust preventative in the five minutes of cleaning. The table below lists the amount of soil added and remaining for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
AK 225	0.0544	-0.0001	100.18
	0.0152	0.0014	90.79
	0.0180	0.0007	96.11
DS 108	0.0250	0.0005	98.00
	0.0115	0.0011	90.43
	0.0242	0.0023	90.50
Beyond 2008	0.0334	0.0037	88.92
	0.0085	0.0006	92.94
	0.0097	0.0017	82.47
D Greeze 1000	0.0070	-0.0001	101.43
	0.0108	0.0002	98.15
	0.0156	-0.0002	101.28
278 Super Solv	0.0130	0.0009	93.08
	0.0282	0.0012	95.74
	0.0165	0.0018	89.09
Inproclean 3800	0.0161	0.0016	90.06
	0.0313	0.0023	92.65
	0.0379	0.0057	84.96
E3HB	0.0305	0.0003	99.02
	0.0129	0.0004	96.90
	0.0215	0.0025	88.37
SC Aircraft & Metal Cleaner	0.0155	0.0002	98.71
	0.0093	0.0005	94.62
	0.0089	0.0003	96.63

Summary:

Substrates:	Steel
Contaminants:	Coatings

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Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
AGA Chemical	AK 225	100	95.69	☑	
Dysol	DS 108 Wipe Solvent	100	92.98	☑	
Today & Beyond	Beyond 2008	100	88.11	☑	
AW Chesterton	278 Super Solv	100	92.64	☑	
Transene Company, Inc.	D Greeze 1000	100	100.29	☑	
Oakite Products	Inproclean 3800	10	89.22	☑	
Metabolix Inc	Metabolix E3HB	100	94.76	☑	
Gemtek Products	SC Aircraft & Metal Cleaner Super Concentrate	10	96.65	☑	

Conclusion: Increasing cleaning time may improve the efficiencies of the cleaners. A follow up trial will be conducted for the products with less than 95% efficiency.