CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2004
DateRun:	07/12/2004
Experimenters:	Jason Marshall, Heidi Wilcox, Andy Harris
ClientType:	Metal Finishing
ProjectNumber:	Project #2
Substrates:	Aluminum
PartType:	Coupon
Contaminants:	Coatings
Cleaning Methods:	Immersion/Soak
Analytical Methods:	Gravimetric
Purpose:	To identify alternative alkaline products for Solvon PB.
Experimental Procedure:	Seven cleaners were selected from the laboratories database of past testing based on supplied data from client. Two client supplied products were included as well. All products were diluted to 5% using DI water in 600 ml beakers. All nine products were heated to 120 F on a hot plate. Twenty-seven preweighed aluminum coupons were coated with client supplied coating, Castrol Industries Rustilo 4163 (64742-46-7, 8002-74-2, 34590-94-8), using a hand held swab and then weighed a second time to determine the amount of soil added. Three coupons were cleaned in each solution for 5 minutes using stir-bar agitation. Coupons were rinsed in tap water for 15 seconds at 120 F, followed by air blow off at room temperature. Once dry, coupons were weighed a final time and efficiencies for each cleaner were calculated.
Results:	All nine products removed over 92% of the rust preventative coating within the five minutes of immersion cleaning. 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
Inproclean 3800	0.1495	0.0035	97.66
	0.1528	0.0283	81.45
	0.1566	0.0009	99.43
Daraclean 282 GF	0.1674	0.0013	99.22
	0.2265	0.0105	95.36
	0.1963	0.0053	97.30
Beyond 2004	0.1275	-0.0045	103.53
	0.1304	-0.0019	101.46
	0.1673	0.0006	99.64
Aeromaster	0.1747	-0.0002	100.11
	0.2008	0.0006	99.70
	0.2041	0.0005	99.76
Aircraft & Metal	0.1692	0.0168	90.07
	0.1775	0.0041	97.69
	0.1865	0.0051	97.27
1400 GD	0.2394	-0.0008	100.33
	0.2009	-0.0004	100.20
	0.1733	-0.0003	100.17
M Aero-NS	0.1272	0.0010	99.21
	0.1619	0.0008	99.51
	0.1410	0.0053	96.24
EZE 774	0.1432	0.0063	95.60
	0.2081	0.0072	96.54
	0.1495	0.0029	98.06
815 QR	0.1749	0.0005	99.71
	0.1616	0.0010	99.38
	0.1760	0.0000	100.00

Summary:

Substrates:	Aluminum

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Contaminants:	Coatings				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Oakite Products	Inproclean 3800	5	92.85	☑	
Magnaflux	Daraclean 282 GF	5	97.30	☑	
Today & Beyond	Beyond 2004	5	101.54	☑	
Buckeye International	Aeromaster	5	99.86	☑	
Gemtek Products	SC Aircraft & Metal Cleaner Super Concentrate	5	95.01	☑	
Brulin Corporation	Aquavantage 1400	5	100.24	☑	
Church & Dwight Co Inc.	Armakleen M Aero NS	5	98.32	☑	
Calgon Corporation	EZE 774	5	96.73	☑	
Brulin Corporation	815 QR	5	99.70	☑	

Conclusion: The five products with over 98% removal efficiencies will used on the second supplied rust preventative under the same conditions.