CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2008
DateRun:	03/02/2008
Experimenters:	Jason Marshall
ClientType:	Aluminum Anodizing Job Shop
ProjectNumber:	Project #2
Substrates:	Aluminum
PartType:	Coupon
Contaminants:	Coatings
Cleaning Methods:	Immersion/Soak
Analytical Methods:	Gravimetric
Purpose:	To identify possible aqueous products for removal of lacquer from aluminum parts
Experimental Procedure:	Eight products were selected from the lab's on-line database, www.cleanersolutions.org, based on past testing results matching client supplied information. Seven of these products were diluted to 5% using DI water in 600 ml beakers. The eighth product was used at full strength as recommended by the vendor. All eight products were heated to 130 F on a hot plate. Twenty-four preweighed 5052 Aluminum coupons were coated with the Stan Chem Inc Red Stop Off (78-93-3, 108-88-3) lacquer using a handheld swab. The coating was allowed to dry for about an hour. Once dry, the coupons were weighed a second time to determine the amount of Red Stop Off applied. Three coupons were immersed into each solution and cleaned for 5 minutes using stir-bar agitation. Rinsing was performed for 15 seconds using tap water heated to 120 F and followed by 30 seconds of air blow off with dry compressed air at room temperature. Final weights were recorded and efficiencies were calculated for each coupon cleaned.
Results:	Only one product, Ink Zapper, showed any signs of removing the lacquer from the aluminum coupons within 5 minutes of cleaning. Even though the Ink Zapper had a negative efficiency, visual observations revealed that the coating on the coupon could be wiped off to some extent. All of the other products removed less than 5% of the lacquer. The table lists the amount of coating added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Aquavantage 1400	0.2017	0.1954	3.12
	0.2373	0.2292	3.41
	0.1611	0.1571	2.48
Daraclean 235	0.2603	0.2582	0.81
	0.1633	0.1624	0.55
	0.3056	0.3013	1.41
Polyspray Jet 790 xs	0.4048	0.3884	4.05
	0.1541	0.1490	3.31
	0.2505	0.2428	3.07
Sopmaster	0.2543	0.2466	3.03
	0.2161	0.2067	4.35
	0.3411	0.3266	4.25
SC 1000	0.1328	0.1272	4.22
	0.2507	0.2409	3.91
	0.1398	0.1336	4.43
Micro 90	0.3145	0.3005	4.45
	0.2208	0.2065	6.48
	0.2395	0.2224	7.14
Ink Zapper	0.1942	0.2507	-29.09
	0.2193	0.2712	-23.67
	0.4196	0.4602	-9.68
BG Clean 617	0.3245	0.3100	4.47
	0.2740	0.2665	2.74
	0.2915	0.2833	2.81

Summary:

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Substrates:	Aluminum
Contaminants:	Coatings

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Brulin Corporation	Aquavantage 1400	5	3.01	☐	
Magnaflux	Daraclean 235	5	0.92	☐	
US Polychem Corporation	Polyspray Jet 790 XS	5	3.48	☐	
Buckeye International	Shopmaster	5	3.88	☐	
Gemtek Products	SC 1000 Aqueous Cleaner Concentrate	5	4.19	☐	
International Products Corporation	Micro 90 Conc.	5	6.02	☐	
Vertec BioSolvents	Ink Zapper	100	-20.81	☑	Signs of removing the lacquer
BioGenesis Enterprises Inc	BG Clean 617	5	3.34	☐	

Conclusion: Due to the limited success of the selected products, an addition set of products will be selected for similar evaluation.