CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2004

DateRun: 08/17/2004

Experimenters: Jason Marshall

ClientType: Jewelry Mfr

ProjectNumber: Project #1

Substrates: Brass

PartType: Coupon

Contaminants: Buffing/Polishing Compounds

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate selected aqueous based cleaning products for buffing compound removal.

Experimental Procedure: Eight alternative aqueous products were selected from the laboratory's database of test results based on client specific information. Each product was diluted to 5% using DI water in 600 ml beakers and heated to 130F on a hot plate.
Twenty-four preweighed CDA260 Brass coupons were coated with the Matchless Metal Polishing Company K55-278 Liquid Tripoli Buffing compound (1317-85-8) using a hand held swab. Coupons were allowed to sit overnight and weighed a second time to determine the amount of soil added to each coupon. Three coupons were cleaned in each product for 5 minutes using stir-bar agitation. Coupons were rinsed for 15 seconds in tap water at 120F and dried for 30 seconds using air blow off at room temperature. Once coupons were dry, final weights were recorded and efficiencies were calculated.

Results: Some of the products started to show signs of removing the buffing compound after the five minutes of immersion cleaning. However none of the products removed over 75% contaminant. The table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
KPC 820 N	0.4778	0.4298	10.05
	0.4582	0.3664	20.03
	0.7620	0.6614	13.20
Aquavantage 1400 GD	0.4840	0.3099	35.97
	0.3186	0.1450	54.49
	0.3690	0.2081	43.60
Shopmaster LpH	0.3856	0.2743	28.86
	0.3254	0.2431	25.29
	0.2767	0.2240	19.05
SC Aircraft & Metal	0.3526	0.3246	7.94
	0.2869	0.2077	27.61
	0.2231	0.1549	30.57
Micro 90	0.4195	0.3228	23.05
	0.3150	0.2187	30.57
	0.4062	0.3236	20.33
Inproclean 3800	0.3655	0.1044	71.44
	0.5178	0.1798	65.28
	0.3585	0.1534	57.21
Beyond 2003	0.4341	0.1292	70.24
	0.4077	0.2301	43.56
	0.3751	0.2036	45.72
Polyspray Jet 790 P	0.3851	0.2631	31.68
	0.4166	0.2360	43.35
	0.3900	0.2014	48.36

Summary:

Substrates:	Brass				
Contaminants:	Buffing/Polishing Compounds				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**

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AW Chesterton	KPC 820 N	5	14.43	☐	
Brulin Corporation	Aquavantage 1400	5	44.69	☑	
Buckeye International	Shopmaster LPH	5	24.40	☐	
Gemtek Products	SC Aircraft & Metal Cleaner Super Concentrate	5	22.04	☐	
International Products Corporation	Micro 90 Conc.	5	24.65	☐	
Oakite Products	Inproclean 3800	5	64.64	☑	
Today & Beyond	Beyond 2003	5	53.17	☑	
US Polychem Corporation	Polyspray Jet 790 P	5	41.13	☑	

Conclusion: The four products with efficiencies over 40% will be evaluated next using ultrasonic energy.