CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2006
DateRun:	09/05/2006
Experimenters:	Jason Marshall
ClientType:	Metal Working
ProjectNumber:	Project #1
Substrates:	Brass
PartType:	Coupon
Contaminants:	Buffing/Polishing Compounds
Cleaning Methods:	Immersion/Soak
Analytical Methods:	Gravimetric
Purpose:	To evaluate selected cleaners on supplied buffing compound using immersion cleaning.
Experimental Procedure:	Seven products were selected from the lab's database of testing results based on supplied client information. Products were selected based on buffing compound removal potential and compatibility with brass metal substrates. Each product was diluted to 5% in 250 ml beakers using DI water and heated to 130 F on a hot plate. Twenty-one preweighed coupons were coated with the yellow buffing compound. The compound was heated to melting so that a handheld swab could spread the compound across the coupons. Coupons were weighed a second time to determine the amount of buffing compound added. Three coupons were cleaned in each solution for five minutes using minimal stir bar agitation. Coupons were rinsed for 15 seconds in a tap water bath at 120 F and dried using a dry compressed air for 30 seconds. Once dry coupons were weighed a final time and product efficiencies were calculated.
Results:	All seven products removed over 70% of the buffing compound after 5 minutes of immersion cleaning. Three removed over 85%. The following table lists the amount of buffing compound applied, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
XL 100	0.1332	0.0230	82.73
	0.0988	0.0190	80.77
	0.1205	0.0474	60.66
MC 132	0.1797	0.0325	81.91
	0.1247	0.0165	86.77
	0.0710	0.0016	97.75
Inproclean 3800	0.1177	0.0228	80.63
	0.1203	0.0309	74.31
	0.1406	0.0221	84.28
Polyspray Jet 790 XS	0.2332	0.0379	83.75
	0.1756	0.0187	89.35
	0.1102	0.0017	98.46
Daraclean 283	0.1327	0.0274	79.35
	0.2145	0.0349	83.73
	0.2708	0.0821	69.68
Detergent 8	0.1725	0.0018	98.96
	0.0934	0.0026	97.22
	0.0569	0.0011	98.07
Gillite 0650 CI	0.1881	0.0299	84.10
	0.3137	0.0980	68.76
	0.3381	0.0840	75.16

Summary:

Substrates:	Brass				
Contaminants:	Buffing/Polishing Compounds				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Buckeye International	XL 100 Cleaner & Degreaser	5	74.72	☐	
	MC 132	5	88.81	☑	

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Matchless Metal Polish Company					
Oakite Products	Inproclean 3800	5	79.74	☐	
US Polychem Corporation	Polyspray Jet 790 XS	5	90.52	☑	
Magnaflux	Daraclean 283	5	77.59	☐	
Alconox Inc	Detergent 8	5	98.08	☑	
Man Gill Chemical Company	Gillite 0650 Cl	5	76.01	☐	

Conclusion: Three products were found to work on the supplied buffing compound. Cleaning with ultrasonic energy will increase the effectiveness of the products especially when dealing with intricate parts. With the products successful on the buffing compound, the next step will be to evaluate these cleaners on supplied parts at or after workshop.