CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2004

DateRun: 07/22/2004

Experimenters: Jason Marshall, Heidi Wilcox, Andy Harris

ClientType: Metal Finishing

ProjectNumber: Project #2

Substrates: Aluminum

PartType: Coupon

Contaminants: Cutting/Tapping Fluids

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate additional client in-house cleaners.

Experimental Procedure: Three client supplied products were used at received in 400 ml beakers. All six products were heated to 120 F on a hot plate. Nine preweighed aluminum coupons were coated with client supplied cutting fluid, WA Wood Co Maxoline 75 grinding oil (64741-97-5, 63449-39-8), 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: Two of the products caused damage to the aluminum coupons and resulted in the products foaming up and reducing the weight of the coupons. The Alkalume was effective, removing over 95% of the cutting fluid. The table below lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Ro-Prepp R	0.3973	-0.2149	154.09
	0.4219	-0.2357	155.87
	0.3803	-0.1183	131.11
Cleppo 587A	0.3323	-0.0890	126.78
	0.3324	-0.0453	113.63
	0.3997	-0.0539	113.49
Alkalume LN	0.4440	0.0182	95.90
	0.3694	0.0201	94.56
	0.4005	0.0164	95.91

Summary:

Substrates:	Aluminum
Contaminants:	Cutting/Tapping Fluids

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
McGean Rohco Inc	Ro-Prepp	100	147.02	☐	
Frederick Gumm Chemical	Clepo 587 A	100	117.97	☐	
McGean Rohco Inc	Alkalume LN	100	95.45	☑	

Conclusion: The three products will be tested on the next oil. The two that damaged the coupons will only be tested briefly.