CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2006

DateRun: 08/14/2006

Experimenters: Jason Marshall

ClientType: Metal Working

ProjectNumber: Project #1

Substrates: Cold Rolled Steel

PartType: Coupon

Contaminants: Oil

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate successful cleaners on the third supplied oil using immersion cleaning.

Experimental Procedure: Five successful products from the first two oil removal trials were evaluated on the third oil. The products were diluted to 5% in 600 ml beakers using DI water and heated to 130 F on a hot plate.

Fifteen pre-weighed coupons were coated with US Oil Company US Blanking Oil 250 using a hand held swab. Coupons were weighed a second time to determine the amount of oil 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 Master Appliance Heat gun at 500 F for 30 seconds. Once dry coupons were weighed a final time and product efficiencies were calculated.

Results: All five products removed over 85% of the blanking oil from the cold rolled steel coupons. Three of the five removed over 95%. The follow table lists the amount of oil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Surface Cleanse 930	0.3495	0.0360	89.70
	0.2345	0.0369	84.26
	0.3227	0.0406	87.42
Aquavantage 1400	0.2590	0.0383	85.21
	0.2109	0.0404	80.84
	0.2184	0.0216	90.11
Inproclean 3800	0.2704	0.0130	95.19
	0.3418	0.0129	96.23
	0.3548	0.0219	93.83
Sea Wash Blue	0.4008	0.0042	98.95
	0.3153	0.0082	97.40
	0.3284	0.0032	99.03
Mirachem 500	0.4318	0.0120	97.22
	0.2906	0.0195	93.29
	0.6219	0.0092	98.52

Summary:

Substrates:	Cold Rolled Steel
Contaminants:	Oil

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
International Products Corporation	Surface Cleanse Concentrated Neutral 930	5	87.13	☑	
Brulin Corporation	Aquavantage 1400	5	85.39	☑	
Oakite Products	Inproclean 3800	5	95.08	☑	
Warren Chemical Company	Sea Wash Blue	5	98.46	☑	
Mirachem Corporation	Mirachem 500	5	96.34	☑	

Conclusion: All five products will be used on the fourth supplied oil.