

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2006
 DateRun: 08/15/2006
 Experimenters: Jason Marshall
 ClientType: Metal Working
 ProjectNumber: Project #1
 Substrates: Stainless Steel
 PartType: Coupon
 Contaminants: Cutting/Tapping Fluids, Oil
 Cleaning Methods: Immersion/Soak
 Analytical Methods: Gravimetric
 Purpose: To evaluate products on second supplied oil.

Experimental Procedure: Four products from the previous trial were used based on their performance. An additional four alternative products were selected from the lab's database of testing results based on supplied client information. Products were chosen based on oil removal potential and compatibility with various metal substrates. Each product was diluted to 5% in 600 ml beakers using DI water and heated to 130 F on a hot plate.
 Twenty-four preweighed coupons were coated with US Oil Company US Cut 6040 using a handheld 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: Four of the eight products removed over 80% of the oil within five minutes of immersion cleaning. Three of these four also were effective on the first supplied oil. 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	0.2948	0.0314	89.35
	0.2383	0.0294	87.66
	0.2433	0.0395	83.76
Aquavantage 1400	0.2269	0.0824	63.68
	0.2477	0.0880	64.47
	0.2727	0.1127	58.67
Inproclean 3800	0.3294	0.0714	78.32
	0.2216	0.0465	79.02
	0.2894	0.0501	82.69
Sea Wash Blue	0.2403	0.0006	99.75
	0.2367	0.0003	99.87
	0.3524	0.0016	99.55
Shopmaster	0.1822	0.0707	61.20
	0.2009	0.0762	62.07
	0.2320	0.0617	73.41
Polyspray Jet 790 XS	0.2417	0.0823	65.95
	0.2564	0.0573	77.65
	0.2340	0.0577	75.34
Amberclean 527 L	0.2851	0.0694	75.66
	0.2078	0.0410	80.27
	0.1664	0.0565	66.05
Mirachem 500	0.1909	0.0208	89.10
	0.1698	0.0159	90.64
	0.0759	0.0031	95.92

Summary:

Substrates:	Stainless Steel
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Contaminants:		Cutting/Tapping Fluids, Oil			
Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
International Products Corporation	Surface Cleanse Concentrated Neutral 930	5	86.93	<input checked="" type="checkbox"/>	
Brulin Corporation	Aquavantage 1400	5	62.28	<input type="checkbox"/>	
Oakite Products	Inproclean 3800	5	80.01	<input checked="" type="checkbox"/>	
Warren Chemical Company	Sea Wash Blue	5	99.72	<input checked="" type="checkbox"/>	
Buckeye International	Shopmaster	5	65.56	<input type="checkbox"/>	
US Polychem Corporation	Polyspray Jet 790 XS	5	72.98	<input type="checkbox"/>	
Innovative Organics Inc	Amberclean 527 L	5	73.99	<input type="checkbox"/>	
Mirachem Corporation	Mirachem 500	5	91.89	<input checked="" type="checkbox"/>	

Conclusion:

The four successful products will be used on the next supplied soil. In addition, the one product that was not evaluated on the first soil will be tested.