CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2008
DateRun:	06/17/2008
Experimenters:	Jason Marshall, Shweta Bansal
ClientType:	Tool Manufacturer
ProjectNumber:	Project #1
Substrates:	Steel
PartType:	Coupon
Contaminants:	Cutting/Tapping Fluids
Cleaning Methods:	Immersion/Soak
Analytical Methods:	Gravimetric
Purpose:	To evaluate selected products on first supplied soil using immersion cleaning
Experimental Procedure:	Ten products were selected from the lab's on-line database, www.cleanersolutions.org, based on supplied information from client. Each product was diluted to 5% using DI water in 600 ml glass beakers. Solutions were heated to 130 F on a hot plate. Thirty preweighed steel coupons were coated with the Castrol Industrial Inc Safety Draw 722X (61788-76-9, 64742-54-7) using a swab. Coupons were weighed a second time to determine the amount of soil added. Three coupons were immersed into each product and cleaned for 5 minutes using minimal stir-bar agitation. Following cleaning, coupons were rinsed for 15 seconds in tap water at 120 F and dried using air blow off for 30 seconds at room temperature. Final weights were recorded, and efficiencies were calculated.
Results:	No product was very successful using immersion cleaning to remove the Safety Draw fluid. Three of the products had marginal success, removing over a third of the soil in time frame. The table lists the amount of soil added to the coupons, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Shopmaster LpH	1.2137	1.0225	15.75
	1.1135	0.9075	18.50
	0.1178	0.1293	-9.76
SC Aircraft	0.5663	0.5225	7.73
	0.7015	0.4883	30.39
	0.7447	0.4684	37.10
Inproclean 3800	0.6469	0.5230	19.15
	0.3120	0.2797	10.35
	0.6061	0.5558	8.30
Micro 90	0.5373	0.3236	39.77
	0.5647	0.4179	26.00
	0.6406	0.4256	33.56
Sea Wash Blue	0.4791	0.3807	20.54
	0.3889	0.3638	6.45
	0.5080	0.4953	2.50
Daraclean 282 GF	0.3931	0.3337	15.11
	0.4629	0.2623	43.34
	0.2841	0.1559	45.12
Aquavantage 1400 GD	0.5472	0.5084	7.09
	0.6346	0.5415	14.67
	0.4646	0.3489	24.90
Polyspray Jet 790 XS	0.4099	0.2508	38.81
	0.6895	0.2037	70.46
	0.7768	0.5275	32.09
BG Solv 717	0.4779	0.3699	22.60
	0.7915	0.6276	20.71
	0.5449	0.3647	33.07
Hurrisafe	0.6333	0.4602	27.33

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	0.6192	0.5813	6.12
	0.6824	0.5654	17.15

Summary:

Substrates:	Steel
Contaminants:	Cutting/Tapping Fluids

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Buckeye International	Shopmaster LPH	5	8.16	☐	
Gemtek Products	SC Aircraft & Metal Cleaner Super Concentrate	5	25.08	☐	
Oakite Products	Inproclean 3800	5	12.60	☐	
International Products Corporation	Micro 90 Conc.	5	33.11	☑	
Warren Chemical Company	Sea Wash Blue	5	9.83	☐	
Magnaflux	Daraclean 282 GF	5	34.52	☑	
Brulin Corporation	Aquavantage 1400	5	15.55	☐	
US Polychem Corporation	Polyspray Jet 790 XS	5	47.12	☑	
BioGenesis Enterprises Inc	BG Solv 717 Ink & Graffiti Cleaner	5	25.46	☐	
PCI of America	Hurrisafe 9450	5	16.87	☐	

Conclusion:

The three products that were partially successful will be evaluated using ultrasonic cleaning. Additional products will be selected from the lab's inventory as well.