CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2008

DateRun: 04/30/2008

Experimenters: Shweta Bansal

ClientType: Machining Company

ProjectNumber: Project #1

Substrates: Aluminum

PartType: Coupon

Contaminants: Cutting/Tapping Fluids

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: To evaluate possible immersion cleaning process for company to replace current solvent dunking system.

Experimental Procedure: Six products were selected based on previous lab testing for similar cleaning scenarios. Preweighed coupons were coated with the supplied grinding fluid (Houghton - Grind (HOUC 420060) using a handheld swab and weighed a second time to determine the amount of soil added.

Each cleaner was put in a bowl and three coupons were dunked into the solution at a constant rate for 30 seconds of cleaning. The coupons were then put on a tray and when done and allowed to air dry. There was no rinse. The process was done to as closely replicate the process used on site as possible. Once dry, final weights were recorded, and efficiency calculated for each coupon cleaned.

Results: Only one product was moderately successful, removing just under 80% of the grinding fluid. Three products removed over 50%. The table below lists the amount of soil added, the amount remaining and the efficiency for the coupons cleaned.

Cleaner	Initial wt	Final wt	% Removed
Solsafe 245	0.2404	0.1178	51.00
	0.1904	0.0744	60.92
	0.4142	0.1629	60.67
Metalnox M6310	0.1942	0.0514	73.53
	0.2076	0.0479	76.93
	0.2219	0.0349	84.27
Ionox HC 2	0.2633	0.0964	63.39
	0.1483	0.1180	20.43
	0.2291	0.0676	70.49
Soy Clear 1500	0.1229	0.0984	19.93
	0.2574	0.1238	51.90
	0.2085	0.1985	4.80
Biodiesel	0.2689	0.2566	4.57
	0.1173	0.0916	21.91
	0.1485	0.1137	23.43
SC Supersolve	0.3400	0.1177	65.38
	0.2599	0.1272	51.06
	0.1885	0.1075	42.97

Summary:

Substrates:	Aluminum
Contaminants:	Cutting/Tapping Fluids

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Bio Chem Systems	Solsafe 245	100	57.53	☐	
Kyzen Corporation	Metalnox M6310 (For Comparison Only)	100	78.24	☑	
Kyzen Corporation	Ionox HC 2	100	51.44	☐	
AG Environmental Products	Soy Clear 1500	100	25.54	☐	
Newport Biodiesel	Biodiesel	100	16.64	☐	
Gemtek Products	SC Supersolve Safety Solvent	100	53.14	☐	

Conclusion:

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Longer cleaning times should improve the efficiencies for many of the selected products. All six will be evaluated on the second supplied cutting fluid.