CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2006

DateRun: 10/11/2006

Experimenters: Jason Marshall, Heidi Wilcox

ClientType: Lab

ProjectNumber: Project #1

Substrates: Aluminum

PartType: Coupon

Contaminants: Carbon Deposits, Greases, Oil

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: Laboratory evaluations of alternative aerosol cleaning products

Experimental Procedure: Basic cleaning performance testing was conducted using ASTM G122 as the bases for cleaning.

Seven products were selected for testing based on equipment compatibility and soil removal. The six products were used at full strength in 250 ml beakers, one product was used at 5% and another at 25%. Both dilutions were made with DI water in 600 ml beakers. Products were used at room temperature. Twenty-one preweighed aluminum coupons were coated with a collection of brake/engine soil collected from an automobile shop. The coupons were allowed to sit for several days before a second weight was recorded. Three coupons were cleaned in each solution for 5 minutes using minimal agitation from a magnetic stir bar. Coupons were then rinsed in tap water for 15 seconds and dried using air blow off at room temperature for 30 seconds. Following drying, final weights were recorded and cleaning efficiencies were calculated.

Results: The table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Solsafe 245	0.5652	0.0978	82.70
	0.7022	0.0628	91.06
	0.6891	0.1613	76.59
Polyspray Jet 790 P	0.7052	0.6415	9.03
	0.7512	0.6341	15.59
	0.7286	0.7247	0.54
Inproclean 4000 T	0.6550	0.4985	23.89
	0.5046	0.3748	25.72
	0.5013	0.3329	33.59
Soy Gold 2000	0.6691	0.1737	74.04
	0.6924	0.2721	60.70
	0.5639	0.2288	59.43
Soy Gold 1000	0.4381	0.1688	61.47
	0.4884	0.2542	47.95
	0.5974	0.1700	71.54
Formula 180 D	0.7346	0.6544	10.92
	0.6540	0.4955	24.24
	1.1044	0.9722	11.97
Actisolv	0.4437	0.3976	10.39
	0.7289	0.6769	7.13
	0.9546	0.9009	5.63

Summary:

Substrates:	Aluminum				
Contaminants:	Carbon Deposits, Greases, Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Bio Chem Systems	Solsafe 245	100	83.45	☑	
US Polychem Corporation	Polyspray Jet 790 P	25	8.39	☐	

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Oakite Products	Inproclean 4000 T	5	25.19	☐	retest at higher concentration
AG Environmental Products	Soy Gold 2000	100	64.72	☑	
AG Environmental Products	Soy Gold 1000	100	60.32	☑	
Sysco Corporation	Soy Cleaner 180 D	100	15.71	☐	
Gemtek Products	SC Actisolv Safety Solvent	100	7.72	☐	

Conclusion: Three products were moderately successful in removing the brake/engine grease-oil mix using immersion cleaning at room temperature and will be used in the next round of aerosol testing.