CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2009

DateRun: 02/09/2009

Experimenters: Johanna Oviedo

ClientType: Lab

ProjectNumber: Project #1

Substrates: Copper

PartType: Coupon

Contaminants: Greases

Cleaning Methods: Immersion/Soak

Analytical Methods: Visual

Purpose: To test nontoxic industrial cleaning solutions for oil removal

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

Products were selected based on the compatibility of substrate and removal of foreign substance. Used 5% concentration and heated the samples at 135F. The steel coupons were immersed in a product for 5 minutes, rinsed for 30 seconds in tap water at 120F and dried in 30 seconds using compressed air is room temperature. Coupons were coated with used oil. Using a handheld swab and allowed to dry for 144 minutes at room temperature. The contaminated coupons were weighed again to determine the amount of soil added. After cleaning process, the final weights were recorded, efficiencies were calculated and recorded.

Results:

Cleaner	Initial wt	Final wt	% Removed
Graffiti Remover SAC			
	0.1419	0.02	88.58
	0.2389	0.00	100.67
	0.2741	0.01	95.84
DFC 105			
	0.1113	0.07	36.66
	0.2090	0.06	69.00
	0.8564	0.64	24.86
Formula 815 MX-AA			
	0.5232	0.07	86.64
	0.5286	0.07	86.89
	0.9362	0.09	89.94
Polyspray 790 XS			
	0.0532	0.00	91.92
	0.3151	0.04	88.70
	0.3710	0.05	86.01

Summary:

Substrates:	Copper
Contaminants:	Greases

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Spartan Chemical Company	Graffiti Remover SAC	10	95.03	☑	
Cogent Environmental Solutions	DFC 105	5	43.50	☐	
Brulin Corporation	Formula 815MX AA	10	87.82	☑	
US Polychem Corporation	Polyspray Jet 790 XS	10	88.88	☑	

Conclusion: Three of the four products removed more than 85% of the grease from copper using immersion cleaning.