CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2004

DateRun: 05/25/2004

Experimenters: Jason Marshall

ClientType: Lab

ProjectNumber: Project #1

Substrates: Steel

PartType: Coupon

Contaminants: Coatings

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: Laboratory evaluations of alternative cleaning products

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

All products were used heated to 96 F on a hot plate in 250 ml beakers. Eighteen preweighed steel coupons were coated with Rochester Midland RI780 rust preventative (80252-41-3, 95-63-6) using a handheld swab. The oil was then heated with a Master Appliance Heat gun at 300 F for 10 minutes. After cooling to room temperature, a second weighing was performed to determine the amount of soil that was added. Three coupons were cleaned in each solution for 5 minutes with minimal stir-bar agitation. After drying, coupons were weighed a final time to determine the cleaning efficiency of each product.

Results:

Cleaner	Initial wt	Final wt	% Removed
Vertrel MCA	0.02000	0.00150	92.50
	0.12690	0.00340	97.32
	0.13150	0.00090	99.32
Heavy Duty Degreaser C	0.08620	0.00130	98.49
	0.10970	0.00020	99.82
	0.06960	0.00110	98.42
HFE 7100	0.07200	0.00300	95.83
	0.11920	0.00460	96.14
	0.12210	0.00450	96.31
OS 10	0.11220	0.00320	97.15
	0.04570	0.00560	87.75
	0.10070	0.00600	94.04
OS 20	0.10830	0.00190	98.25
	0.07100	0.00490	93.10
	0.03590	0.00360	89.97
OS 30	0.10170	0.00870	91.45
	0.08370	0.01390	83.39
	0.07100	0.01020	85.63

Summary:

Substrates:	Steel				
Contaminants:	Coatings				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
DuPont	Vertrel MCA	100	96.38	☑	
Micro Care	Heavy Duty Degreaser C	100	98.91	☑	
3M	HFE 7100	100	96.10	☑	
Dow Chemical Company	OS 10	100	92.98	☑	
Dow Chemical Company	OS 20	100	93.77	☑	
Dow Chemical Company	OS 30	100	86.82	☑	

Conclusion: All six products removed over 85%.