CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2004

DateRun: 12/13/2004

Experimenters: Jason Marshall

ClientType: General

ProjectNumber: Project #1

Substrates: Stainless Steel

PartType: Coupon

Contaminants: Oil, Starch

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate successful cleaners at lower concentrations.

Experimental Procedure: The top two products from the previous trials were diluted with DI water to two concentrations, 5 and 2.5%. The products were then heated to 200 F on a hot plate. The client's current cleaner was also used at 3% at the same temperature.

Fifteen preweighed stainless steel coupons were coated with the supplied cotton seed oil/starch mix and allowed to sit for 24 hours. Coupons were then weighed a second time to determine the amount of soil that was added. Three coupons were cleaned in each product for sixty minutes with no agitation. Cleaning was followed by a 15 second rinse in a tap water bath at 120 F and air blow off for 30 seconds at room temperature. Once dry, coupons were weighed a third time and efficiencies were calculated for each product tested.

Results: The Organic Cleaner/Degreaser at both concentrations worked as well as the client's current cleaner, removing over 98% of the oil after an hour of soaking at 200 F. Both concentrations of VPW SC1000 removed over 96% of the oil/starch mix. The table below lists the amount of soil added, the amount remaining and the percent removed for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Liquid Chembrite	0.4222	0.0003	99.93
	0.2230	0.0037	98.34
	0.3036	0.0022	99.28
Organic D/C 5%	0.3765	0.0016	99.58
	0.3343	0.0036	98.92
	0.3145	0.0026	99.17
Organic D/C 2.5%	0.1925	0.0013	99.32
	0.3677	0.0032	99.13
	0.1455	0.0021	98.56
VPW SC 1000 5%	0.4527	0.0094	97.92
	0.3108	0.0157	94.95
	0.3669	0.0073	98.01
VPW SC 1000 2.5%	0.3897	0.0070	98.20
	0.3775	0.0168	95.55
	0.4202	0.0128	96.95

Summary:

Substrates:	Stainless Steel
Contaminants:	Oil, Starch

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Rochester Midland Corporation	Liquid Chembrite	3	99.18	☑	
1st Envirosafety Inc. - No Longer Exists	Organic Cleaner/Degreaser - For Comparison Purposes Only	5	99.22	☑	
1st Envirosafety Inc. - No Longer Exists	Organic Cleaner/Degreaser - For Comparison Purposes Only	2.5	99.00	☑	
Orison Marketing	VPW SC 1000	5	96.96	☑	
Orison Marketing	VPW SC 1000	2.5	96.90	☑	

Conclusion:

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The products will be tested on supplied contaminated coupons under similar conditions.