CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2004

DateRun: 11/30/2004

Experimenters: Jason Marshall

ClientType: General

ProjectNumber: Project #1

Substrates: Stainless Steel

PartType: Coupon

Contaminants: Oil

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate alternative cleaning products for removing cotton seed oil/starch mix.

Experimental Procedure: Six products were selected from the laboratory's database of test results and vendor supplied information based on client specific needs. Each product was diluted with DI water to vendor suggested concentration. The products were then heated to 130 F on a hot plate.

Eighteen 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 five minutes using stir bar 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: Five of the six products consistently removed over 90% of the cotton seed oil/starch mix. 1St EnviroSafety's Ecco Commercial cleaner removed over 98% of the oil in the five minutes of cleaning at 130 F. 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
H2Orange2	0.0452	0.0253	44.03
	0.3792	0.0369	90.27
	0.4445	0.0505	88.64
SC Oven & Grill	0.3745	0.0151	95.97
	0.3088	0.0155	94.98
	0.0789	0.0077	90.24
VPW SC 1000	0.4447	0.0103	97.68
	0.4194	0.0220	94.75
	0.0470	0.0007	98.51
Ecco Commercial	0.0468	0.0015	96.79
	0.4464	0.0063	98.59
	0.3393	0.0039	98.85
Organic Cleaner/ Degreaser	0.0549	0.0036	93.44
	0.5281	0.0081	98.47
	0.0567	0.0020	96.47
Super H2O2	0.4204	0.0093	97.79
	0.3474	0.0149	95.71
	0.5575	0.0276	95.05

Summary:

Substrates:	Stainless Steel
Contaminants:	Oil

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
EnvirOx LLC	H2Orange2	10	74.31	☐	
Gemtek Products	Safe Care (SC) Oven & Grill Cleaner	10	93.73	☑	
Orison Marketing	VPW SC 1000	20	96.98	☑	
		25	98.08	☑	

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1st Envirosafety Inc. - No Longer Exists	Ecco Commercial Cleaner - For Comparison Purposes Only				
1st Envirosafety Inc. - No Longer Exists	Organic Cleaner/Degreaser - For Comparison Purposes Only	25	96.13	☑	
Cleanline Products	H2O2 Super Citrus Concentrate	10	96.18	☑	

Conclusion: The five effective cleaners will be tested on the coupons that have been contaminated at the client's site in their processing equipment.