CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2000
DateRun:	01/11/2000
Experimenters:	Jason Marshall, Nicole Vayo
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Steel
PartType:	Coupon
Contaminants:	Greases
Cleaning Methods:	Immersion/Soak
Analytical Methods:	Gravimetric
Purpose:	To evaluate client supplied cleaners for the removal of animal fat from oven-like materials.

Experimental Procedure:

The four cleaners supplied were diluted to the requested concentration, 8oz/128oz, using DI water. The products were heated to 150 F on a hot plate.
Twelve preweighed coupons were coated with the contaminant mix and dried for an hour in an convection oven at 400F. After cooling to room temperature, coupons were weighed again. Three coupons were sprayed with three pumps of the spray bottle and allowed to soak for ten minutes. After the soaking, the each coupon was wiped with a paper towel for no more than five minutes. If the coupon was cleaned under the five minutes, the time required for cleaning was recorded. Coupons were weighed again and cleaning efficiencies were calculated.

SUBSTRATE MATERIAL: Steel Coupons, AISI 8620
CONTAMINANTS: Animal fat (bacon grease); Vegetable Oil (Crisco Shortening)
CONTAMINATING PROCESS USED: Coupons were coated with a 50-50 mix of animal fat and vegetable oil using a hand swab and aged for one hour in an oven at 400 F.
CLEANING METHOD: Spray cleaner onto coupons and let sit for ten minutes. Wipe using paper napkin until clean or five minutes.

Results:

Under the specified operating conditions, none of the cleaning products were effective in removing the animal-vegetable mix. Table 2 lists the results of the testing and the observations made during the wiping portion of the trial.

Table 2. Cleaning Efficiencies

	Sysco	SS RH500	SS F1	SS F2
Coupon 1	-0.26	0.23	0.47	0.21
Coupon 2	0.48	0.74	15.29	0.08
Coupon 3	28.36	0.17	1.39	2.64
Average	9.53	0.38	5.71	0.98

Towel stuck to surface and removed more contamination than the wiping alone resulting in the increased efficiency.

Summary:

Substrates:	Steel				
Contaminants:	Greases				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Sysco Corporation	Fryer & Grill Cleaner	6	9.53	☐	
Safe Science Inc	RH 500	6	0.38	☐	
Safe Science Inc	Heavy Duty Kitchen Cleaner F1	6	5.71	☐	
Safe Science Inc	Heavy Duty Kitchen Cleaner F2	6	0.98	☐	

Conclusion:

Additional evaluations should be made using a increased concentrations of the cleaning solutions.