CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2017

DateRun: 06/06/2017

Experimenters: George Liang, Vinh Tran

ClientType:

ProjectNumber: Project #1

Substrates: Stainless Steel

PartType: Coupon

Contaminants: Oil

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate the efficiency of various cleaners in the removal of motor oil from stainless steel coupons.

Experimental Procedure: A set of six stainless steel coupons were weighed on an analytical balance to determine their initial mass. Once this was completed the coupons were evenly soiled with half a gram of motor oil with a handheld swab. The coupons were reweighed to determine the mass of the coupons with the contaminant applied.

Cleaning process:
Dilutions were prepared for the two cleaners, SWR One and Suma Break-Up HD Degreaser as recommended by the vendor. Two 500 mL beaker solutions were made with 10% dilution of SWR One cleaner, and the other with 5% dilution of Suma Break-Up HD Degreaser. Three soiled coupons were placed into the SWR One cleaning solution and the remaining three soiled coupons were placed into the Suma Break-Up HD Degreaser. The coupons were immersed for a total of 30 minutes. After this was completed the coupons were placed into beakers at room temperature with tap water in the beaker, and allowed to sit for a minute in the bath before being removed. Thereafter, the coupons were blow dried at low pressure for 5 minutes and left to air dry for 2 hours. Following the air dry period, the coupons were weighed on the analytical balance to obtain the amount of contaminant removed.

Results: In terms of overall effectiveness both cleaners are ineffective at removing motor oil from the stainless steel coupons. However, the comparative cleaner: Suma Break-Up HD Degreaser was observed to be about as effective as the sampled cleaner.

Cleaner	Initial wt. (g)	Final wt.(g)	% Removed	Overall Avg Removal
SWR One	0.4729	0.0772	83.68	82.95
	0.4893	0.0964	80.30	
	0.5089	0.0770	84.87	
Suma Break-Up HD Degreaser	0.4953	0.0924	81.34	78.77
	0.4910	0.0888	81.91	
	0.5042	0.1359	73.05	

Summary:

Substrates:	Stainless Steel				
Contaminants:	Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
SWR Corporation	SWR One	10	82.94	☐	
Diversey Corporation	Suma Break-Up HD Degreaser	5	78.76	☐	

Conclusion: SWR One cleaner, with a difference of the two average overall removal percentages being less than 5%.