CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2016

DateRun: 09/06/2016

Experimenters: Sabrina Apel

ClientType: Jewelry Mfr

ProjectNumber: Project #3

Substrates: Aluminum

PartType: Coupon

Contaminants: Oil

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric, Visual

Purpose: To evaluate the effectiveness of various cleaners in removing Marvel Mystery Oil from aluminum.

Experimental Procedure: Four cleaners were tested at room temperature on aluminum coupons to evaluate how Marvel Mystery oil soil was cleaned. Preweighed coupons were coated with each supplied soil using a hand held swab for each substrate and weighed a second time to determine the amount of soil added. Each cleaner was put in a beaker and three coupons were immersed into the solution for 5 minutes. The coupons were then stood upright to air dry for 15 minutes and then placed on a tray. There was no rinse. Once dry, final weights were recorded and efficiency was calculated for each coupon cleaned.

Results:

Cleaner	Initial wt of cont.	Final wt of cont.	%Cont Removed
Fluosolv CX	0.2182	0.0059	97.30
	0.2095	0.0028	98.66
	0.1540	0.0017	98.90
Fluosolv NC	0.1686	0.0027	98.40
	0.1786	0.0243	86.39
	0.1500	0.0094	93.73
Vertrel Sion	0.2775	0.0015	99.46
	0.2763	0.0016	99.42
	0.1941	0.0024	98.76
Solstice PF	0.1868	0.0143	92.34
	0.1220	0.0176	85.57
	0.2476	0.0272	89.01

Summary:

Substrates:	Aluminum				
Contaminants:	Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
NuGeneration Technologies, LLC	FluoSolv CX	100	98.29	☑	
NuGeneration Technologies, LLC	FluoSolv NC 786	100	92.84	☑	
DuPont	Vertrel Sion	100	99.21	☑	
Honeywell	Solstice PF with N2	100	88.98	☑	

Conclusion: Ecolink Fluosolv CX, Ecolink Fluosolv NC, and DuPont Vertrel Sion efficiently removed #9 Marvel Mystery Oil on aluminum at room temperature using immersion. Honeywell Solstice PF cleaned least efficiently. DuPont Vertrel Sion cleaned most efficiently with an overall efficiency of 99.21%.