CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2026

DateRun: 08/10/2026

Experimenters: Ashar Khan, Evan Hebert

ClientType: Lab

ProjectNumber: Project #17

Substrates: Aluminum

PartType: Coupon

Contaminants: Greases, Oil

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To determine the efficacy of modified alcohol Metalnox M6386 chemistry in removing various industrial soils without the assistance of vacuum vapor degreasing equipment.

Experimental Procedure: Three Aluminum coupons were assigned to each of 2 industrial soils; Hocut 759 oil and Phillips Multiplex FS 220 Grease. Each coupon was weighed using a gravimetric balance and had their initial weights recorded. Each coupon was then soiled with a pea sized amount of the appropriate soil using a swab to spread it across the surface of the coupons. Each coupon was weighed again and had their dirty weights recorded. The coupons were then immersed in a beaker of the Metalnox M6386 modified alcohol with a stir bar set to 200rpm for 10 minutes. Upon removal from the beaker, the coupons were allowed to air dry for 1 hour before being weighed and having their final weights recorded.

Analysis:

The recorded reflectance values of each coupon were used within an equation to generate a percentage representative of how close the clean reflectance value is to the initial reflectance value. It estimates how closely the coupons were returned to their original state after vacuum vapor degreasing. The equation is as follows

$\%=(R_{clean}-R_{dirty}/R_{initial}-R_{dirty})X100$

Results:

Soil	Initial wt of cont.	Final wt of cont.	%Cont Removed	% AVG
Hocut 795	0.2070	0.0138	93.33	94.27
	0.2093	0.0134	93.60	
	0.2007	0.0083	95.86	
Multiplex FS 220	0.2041	0.1853	9.21	10.84
	0.1951	0.1721	11.79	
	0.1981	0.1753	11.51	

Summary:

Substrates:	Aluminum				
Contaminants:	Greases, Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Kyzen Corporation	Metalnox M6386		94.27	☑	Not effective on Multiplex FS 220 Grease (10.84%)

Conclusion: The Metalnox M6386 modified alcohol was successful in removing the Hocut 795 oil but was unsuccessful in removing the Multiplex FS 220 Grease.