CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2019

DateRun: 08/07/2019

Experimenters: Sabrina Apel, Ross Goding

ClientType:

ProjectNumber: Project #3

Substrates: Stainless Steel

PartType: Part

Contaminants: Oil

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate effectiveness of the provided cleaners in regards to removing supplied gel and oils from stainless steel.

Experimental Procedure: Three pre-weighed stainless-steel coupons were coated with each soil using a swab and allowed to air dry (68 F) for 24 hours. Dirty weights were recorded before immersing coupons into the provided cleaners provided by the company at room temperature (68 F) for two minutes. Coupons were rinsed in a de-ionized water bath for one minute and dried for 24 hours before recording the final weights.

Results: SuperNova Extreme Detergent did not efficiently remove the supplied gel and oils from stainless steel coupons gravimetrically or visually. The contaminant, supplied gel, was clear, therefore there was no visual change in the cleaner as the substrates were immersing. While the substrates contaminated with Houghto-Draw 7060 were being immersed, SuperNova Extreme Detergent (1 oz/gal) visually changed cloudy showing an indication of some contaminant removal. While the substrates contaminated with Mobil SHC 634 were being immersed in SuperNova Extreme Detergent (1 oz/gal), the soil floated to the top of the cleaner. Once the coupons were rinsed and air dried, there was still residue on the surfaces.

Table of Gravimetric Results

Cleaner	Soil	Initial wt of cont.	Final wt of cont.	%Cont Removed	% Average	Overall % Average
SuperNova Extreme Detergent (1 oz/gal)	Supplied Gel	0.0549	0.0204	62.84	63.69	40.26
		0.0588	0.0205	65.14		
		0.0699	0.0258	63.09		
	Houghto-Draw 7060	0.3342	0.1732	48.17	44.88	
		0.4318	0.2998	30.57		
		0.4218	0.1860	55.90		
	Mobil SHC 634	0.4568	0.4117	9.87	12.21	
		0.3346	0.3336	0.30		
		0.6530	0.4803	26.45		
SuperNova Extreme Detergent (0.5 oz/ gal)	Supplied Gel	0.0697	0.0335	51.94	57.06	57.06
		0.0718	0.0331	53.90		
		0.0401	0.0139	65.34		

Summary:

Substrates:	Stainless Steel				
Contaminants:	Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Case Medical Inc.	SuperNova Extreme Detergent	0.8	40.26	☐	
Case Medical Inc.	SuperNova Extreme Detergent	0.4	57.06	☐	

Conclusion: The cleaner, SuperNova Extreme Detergent, at 100% and 50% concentrations, was not effective in removing supplied gel and oils from stainless steel coupons with overall average removals of 40.26% and 57.06%, respectively. The results were verified with visual observations.