CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2024

DateRun: 06/17/2024

Experimenters: Alexander Symko, Nasser Anise

ClientType: Lab

ProjectNumber: Project #8

Substrates: Stainless Steel

PartType: Coupon

Contaminants: Waxes

Cleaning Methods: Ultrasonics

Analytical Methods: Gravimetric

Purpose: To evaluate the effectiveness of Micro-90 (2% cleaner, 98% water), BG-Clean 402 (10% cleaner, 90% water), Simple Green (10% cleaner, 90% water), and 1400 GD Detergent and Degreaser (10% cleaner, 90% water) in removing wax from stainless steel coupons as a preliminary test for Precision Fabricators

Experimental Procedure: three stainless steel coupons were used for each of the four cleaners for a total of 12 coupons. The initial weight of each coupon was recorded before applying the wax. The bottom third of each coupon was soiled by adding Meguiar's Cleaner Wax using a swab. The dirty weights of all coupons were then recorded. The coupons were then put into heated ultrasonics at 120F in Micro-90 (2% dilution with water), BG-Clean 402 (10% dilution with water), Simple Green (10% cleaner, 90% water), and 1400 GD Detergent and Degreaser (10% cleaner, 90% water) for 15 minutes. After the coupons were cleaned, they were left to air dry overnight. The next morning, the clean weights of all of the coupons were recorded.

Results:

Cleaner	Initial wt of cont.	Final wt of cont.	%Cont Removed	Average % Removal
1400 GD	0.2082	0.0476	77.14	83
	0.0875	0.0187	78.63	
	0.1095	0.0069	93.70	
Micro-90	0.1269	0.0078	93.85	99
	0.046	-0.0069	115.00	
	0.1486	0.0187	87.412	
BG -Clean 402	0.1114	0.0121	89.14	92
	0.1847	0.0176	90.47	
	0.1763	0.0084	95.24	
Simple Green	0.1791	0.0198	88.94	81
	0.1699	0.0298	82.46	
	0.2259	0.0651	71.18	

Summary:

Substrates:	Stainless Steel
Contaminants:	Waxes

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
International Products Corporation	Micro 90 Conc.	2% cleaner, 90% water	99.00	☑	On Meguiar's Cleaning Wax
Amiran BioChemicals	BG-Clean 402	10% cleaner, 90% water	92.00	☑	On Meguiar's Cleaning Wax
Brulin Corporation	1400GD Degreaser	10% cleaner, 90% water	83.00	☐	On Meguiar's Cleaning Wax
Simple Green	Simple Green Clean Building All Purpose Cleaner Concentrate - General Purpose Cleaners	10% cleaner, 90% water	81.00	☐	On Meguiar's Cleaning Wax

Conclusion: Coupon 5 appears to be an outlier, as more than 100% of contaminants were removed. This could be caused by the coupon not being completely clean, therefore more than what was applied was removed. Overall, Micro-90 and BG-Clean 402 were effective in cleaning wax from stainless steel. 1400 GD and Simple Green were ineffective in cleaning wax from stainless steel.