CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2020

DateRun: 03/03/2020

Experimenters: Sabrina Apel, Tuan Le

ClientType:

ProjectNumber: Project #2

Substrates: Stainless Steel

PartType: Coupon

Contaminants: Blood

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate effectiveness of the provided cleaners in regards to removing synthetic blood from stainless steel.

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

Results: Table of Gravimetric Results

Cleaner	Temperature (°F)	Initial wt of cont.	Final wt of cont.	%Cont Removed	% Average
CMA	140	0.0082	0.0001	98.78	89.44
		0.0558	0.0085	84.77	
		0.0532	0.0081	84.77	
CMB	140	0.0420	0.0080	80.95	91.93
		0.0530	0.0001	99.81	
		0.0282	0.0014	95.04	
CMC	140	0.0144	0.0006	95.83	97.77
		0.0358	0.0004	98.88	
		0.0498	0.0007	98.59	
CMD	68 (Room Temperature)	0.0871	0.0015	98.28	99.24
		0.0562	0.0001	99.82	
		0.1044	0.0004	99.62	
CME	68 (Room Temperature)	0.0868	0.0000	100.00	98.93
		0.0621	0.0017	97.26	
		0.1700	0.0008	99.53	

Coupons that were cleaned using the CMD cleaner:

Summary:

Substrates:	Stainless Steel				
Contaminants:	Blood				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Case Medical Inc.	CMA	0.08	89.44	☑	
Case Medical Inc.	CMB	0.08	91.93	☑	
Case Medical Inc.	CMC	0.4	97.77	☑	
Case Medical Inc.	CMD	100	99.24	☑	
Case Medical Inc.	CME	100	98.93	☑	

Conclusion: All cleaners were effective in removing synthetic blood from stainless steel coupons. The cleaner, CMD, was most effective with an overall average removal of 99%. The results were confirmed with visual observations.