CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2023
DateRun:	03/07/2023
Experimenters:	Zoe Lawson, Tatyanna Moreland Junior, Alexander Symko
ClientType:	
ProjectNumber:	Project #5
Substrates:	Stainless Steel
PartType:	Coupon
Contaminants:	Blood
Cleaning Methods:	Immersion/Soak
Analytical Methods:	Gravimetric, Visual
Purpose:	To evaluate the effectiveness of the provided cleaners in regards to removing synthetic blood from stainless steel.
Experimental Procedure:	36 pre-weighed stainless-steel coupons were coated with synthetic blood using a swab and were allowed to air dry (68 F) for 24 hours. One set of 18 coupons was set aside for the cleaner SuperNova 0.1 NpHD Neutral Detergent and the other set of 18 coupons was set aside for SuperNova 0.1 Multi-Enzymatic cleaner. Dirty weights were then recorded. The contaminated coupons were immersed in their respective cleaner in sets of three at a temperature of 160 F for SuperNova NpHD for two minutes and 140 F for SuperNova Multi-Enzymatic for two minutes. Following immersion, coupons were rinsed three times in a de-ionized water bath for one minute and dried for 24 hours before the final weights were recorded.
Results:	Table 1: SuperNova 0.1 NpHD and 0.1 Multi-Enzymatic Cleaner Results

Cleaner	Initial wt of cont.	Final wt of cont.	%Cont Removed	Average % Removal	Overall Average % Removal
SuperNova 0.1 NpHD Neutral Detergent-CSNB01G	0.0064	0.0023	64.06	60.11	74.77
	0.0038	0.0018	52.63		
	0.0011	0.0004	63.64		
	0.0030	0.0008	73.33	67.52	
	0.0047	0.0021	55.32		
	0.0023	0.0006	73.91		
	0.0058	0.0006	89.66	88.87	
	0.0031	0.0007	77.42		
	0.0218	0.0001	99.54		
	0.0030	0.0001	96.67	86.15	
	0.0093	0.0031	66.67		
	0.0143	0.0007	95.10		
	0.0044	0.0002	95.45	78.00	
	0.0046	0.0015	67.39		
	0.0052	0.0015	71.15		
	0.0038	0.0013	65.79	67.96	
	0.0063	0.0015	76.19		
	0.0042	0.0016	61.90		
SuperNova 0.1 Multi-Enzymatic Cleaner-CSNC01G	0.0086	0.0010	88.37	75.97	81.97
	0.0055	0.0017	69.09		
	0.0044	0.0013	70.45		
	0.0042	0.0008	80.95	81.72	
	0.0038	0.0006	84.21		
	0.0040	0.0008	80.00		
	0.0026	0.0004	84.62	81.47	
	0.0034	0.0008	76.47		
	0.0042	0.0007	83.33		
	1.0099	0.0072	99.29	77.38	
	0.0019	0.0007	63.16		

CLEANING LABORATORY EVALUATION SUMMARY

0.0033	0.0010	69.70		
0.0070	0.0007	90.00	88.37	
0.0029	0.0004	86.21		
0.0036	0.0004	88.89		
0.0042	0.0006	85.71	86.92	
0.0050	0.0011	78.00		
0.0034	0.0001	97.06		

While SuperNova 0.1 NpHD Cleaner had some high contaminant removal percentages, SuperNova 0.1 Multi-Enzymatic Cleaner was overall more consistent with its average removal of the synthetic blood on stainless steel.

Summary:

Substrates:	Stainless Steel				
Contaminants:	Blood				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Case Medical Inc.	SuperNova .1 NpHD Neutral Detergent-CSNB01G	0.1 fl oz / 1 gal	74.77	☐	
Case Medical Inc.	SuperNova .1 Multi-Enzymatic Cleaner-CSNC01G	0.1 fl oz / 1 gal	81.97	☐	

Conclusion:

SuperNova 0.1 Multi-Enzymatic Cleaner was more effective at removing synthetic blood from stainless steel with an overall average removal of 81.97%. SuperNova 0.1 NpHD Neutral Detergent was slightly less effective with an overall average removal of 74.77%.