CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2023

DateRun: 08/10/2023

Experimenters: Tatyanna Moreland Junior

ClientType: Lab

ProjectNumber: Project #8

Substrates: Brass

PartType: Coupon

Contaminants: Oil

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate the effectiveness of SB-22 (79% Ektapro EEP 14% t-butyl acetate 7% propylene carbonate), SB-24 (92% Ektapro EEP 8% t-butyl acetate) and a mixture of 79% Ektapro EEP 14% ethyl lactate 7% t-butyl acetate in removing two production oils from brass coupons as a potential replacement for TCE unheated immersion cleaning method.

Experimental Procedure: Three brass coupons were used for each cleaner and the two soils being tested for a total of 18 coupons. The initial weights of each coupon were recorded. The bottom third of every coupon was soiled by applying the corresponding soil with a swab. The dirty weights of each coupon were then recorded. The coupons were then subjected unheated immersion in SB-22, SB-24, and the mixture with the stir bar at 240rpm for 15 mins. After the coupons were cleaned they were left to air dry over night. The next morning, the clean weights of each coupon were taken.

Results:

Soil	Cleaner	Initial Content Weight	Final Content Weight	Percent Removed	Average Percent Removed
Oak 7a	SB-22	0.0651	0.0018	97.24	96.27
		0.0343	0.0017	95.04	
		0.0462	0.0016	96.54	
	SB-24	0.0685	0.0019	97.23	94.55
		0.0362	0.0022	93.92	
		0.0293	0.0022	92.49	
	MIX	0.0657	0.0009	98.63	95.39
		0.0344	0.0019	94.48	
		0.0288	0.0020	93.06	
Echocut 44	SB-22	0.0831	0.0004	99.52	96.40
		0.0343	0.0020	94.17	
		0.0400	0.0018	95.50	
	SB-24	0.0423	0.0017	95.98	96.26
		0.0373	0.0016	95.71	
		0.0585	0.0017	97.09	
	MIX	0.0712	0.0016	97.75	97.11
		0.0513	0.0015	97.08	
		0.0399	0.0014	96.49	

Summary:

Substrates:	Brass
Contaminants:	Oil

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
TURI Cleaning lab	SB-22	79% Ektapro EEP 14% t-butyl acetate 7% propylene carbonate	96.00	☑	on soil Oak 7 A
TURI Cleaning lab	SB-22	79% Ektapro EEP 14% t-butyl acetate 7% propylene carbonate	94.00	☑	on soil Echocut 44
TURI Cleaning lab	SB-24	92% Ektapro EEP 8% t-butyl acetate	96.00	☑	on soil Oak 7 A
TURI Cleaning lab	SB-24	92% Ektapro EEP 8% t-butyl acetate	96.00	☑	on soil Echocut 44

Conclusion: All three cleaners proved to be as effect as TCE.