CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2023

DateRun: 08/07/2023

Experimenters: Tatyanna Moreland Junior

ClientType: Lab

ProjectNumber: Project #8

Substrates: Stainless Steel

PartType: Coupon

Contaminants: Oil

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate the effectiveness of SB-11 (46% Ektapro EEP 54% benzyl benzoate), SB-22 (79% Ektapro EEP 14% t-butyl acetate 7% propylene carbonate), SB-24 (92% Ektapro EEP 8% t-butyl acetate) and SB-32 (81% ethyl lactate 19% propylene carbonate) in removing production oil from stainless steel coupons using unheated immersion as a potential replacement for TCE.

Experimental Procedure: Three brass coupons were used for each cleaner for a total of twelve coupons. The initial weights of each coupon were recorded. The bottom third of every coupon was soiled by applying Trim Microsool 585XT with a swab. The dirty weights of each coupon were then recorded. The coupons were then subjected unheated immersion in SB-11, SB-22, SB-24, and SB-32 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:

Cleaner	Initial wt of cont.	Final wt of cont.	%Cont Removed	% AVG
SB-11	0.0300	0.0784	-161.33	-123.22
	0.0334	0.0827	-147.60	
	0.0336	0.0540	-60.71	
SB-22	0.0340	0.0140	58.82	54.60
	0.0196	0.0117	40.31	
	0.0487	0.0172	64.68	
SB-24	0.0330	0.0093	71.82	75.83
	0.0416	0.0101	75.72	
	0.0633	0.0127	79.94	
SB-32	0.0395	0.0249	36.96	34.89
	0.0333	0.0233	30.03	
	0.0406	0.0253	37.68	

SB-11, SB-22, SB-32 did not evaporate off the coupons during the overnight air drying period.

Summary:

Substrates:	Stainless Steel
Contaminants:	Oil

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
TURI Cleaning lab	SB-11	46% Ektapro EEP 54% benzyl benzoate	-122.00	☐	Did not dry overnight
TURI Cleaning lab	SB-22	79% Ektapro EEP 14% t-butyl acetate 7% propylene carbonate	55.00	☐	Did not dry overnight
TURI Cleaning lab	SB-24	92% Ektapro EEP 8% t-butyl acetate	76.00	☐	
TURI Cleaning lab	SB-32	81% ethyl lactate 19% propylene carbonate	35.00	☐	Did not dry overnight

Conclusion: SB-24 is a relatively effective cleaner in removing the soil from stainless steel using unheated immersion. SB-11, SB-22, and SB-32 are not effective cleaners, but may perform better with a drying step added to the cleaning process.