CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2025
DateRun:	02/28/2025
Experimenters:	Tatyanna Moreland Junior
ClientType:	Lab
ProjectNumber:	Project #8
Substrates:	Stainless Steel
PartType:	Coupon
Contaminants:	Oil
Cleaning Methods:	Ultrasonics
Analytical Methods:	Gravimetric
Purpose:	To evaluate the effectiveness of SB-11 (46% Ektapro EEP, 54% Benzyl Benzoate), SB-21 (13% Benzyl Benzoate, 87% Benzyl Alcohol), SB-26 (99% Ektapro EEP, 1% Ethyl Lactate), SB-29 (54% Benzyl Alcohol, 30% Ethyl Lactate, 16% Propylene Carbonate), and SB-32 (81% Ethyl Lactate, 19% Propylene Carbonate) in removing Caster Oil Laboratory Grade from stainless steel coupons as a replacement for TCE.
Experimental Procedure:	Three stainless steel coupons were used for each cleaner, for a total of fifteen coupons. The initial weights of each coupon were recorded. The bottom fourth of every coupon was soiled by applying Caster Oil with a swab. The dirty weights of each coupon were then recorded. The coupons were then subjected to unheated ultrasonic in SB-11, SB-21, SB-26, SB-29, and SB-32 for 15 minutes. After the coupons were cleaned, they were left to air dry over the weekend. The next morning, the clean weights of each coupon were taken.
Results:	Results

Cleaner	Initial weight of cont.	Final weight of cont.	%Cont Removed	Average % Removal
SB-11	0.0342	0.0345	-0.88	-13.87
	0.0386	0.0435	-12.69	
	0.0346	0.0443	-28.03	
SB-21	0.0181	0.0153	15.47	12.50
	0.0256	0.0041	83.98	
	0.0184	0.0298	-61.96	
SB-26	0.0398	0.0006	98.49	100.79
	0.0320	-0.0015	104.69	
	0.0502	0.0004	99.20	
SB-29	0.0362	-0.0003	100.83	100.56
	0.0349	-0.0003	100.86	
	0.0272	0.0000	100.00	
SB-32	0.0176	0.0000	100.00	98.66
	0.0187	0.0000	100.00	
	0.0224	0.0009	95.98	

Notes: The first 2 coupons did not dry, and the next 4 were partially dry. Could be related to the benzyl benzoate.

Summary:	
Conclusion:	SB-26, -29, and -32 were effective at removing the oil.