CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2024
DateRun:	02/20/2024
Experimenters:	Amelia Wagner
ClientType:	Lab
ProjectNumber:	Project #13
Substrates:	Stainless Steel
PartType:	Coupon
Contaminants:	Food
Cleaning Methods:	Immersion/Soak
Analytical Methods:	Gravimetric, Visual
Purpose:	Benchmark Testing of BevSafe products: Unheated Immersion
Experimental Procedure:	Three pre weighed coupons were used per soil for two cleaners for a total of 12 coupons. Half of the coupons were soiled with tea and tea leaves with a swab. The other half were soiled with coffee and coffee grounds with a swab. The coupons were then baked in the oven or 40 minutes at a temperature of 200 F to adhere the soils to the coupons and to initiate staining. The dirty weights of the coupons and visual rankings were then recorded. The coupons were then subjected to 20 minutes of unheated immersion in their respective cleaners with a stir bar set to 300 rpm. The cleaners were used at the vendor recommended concentrations (BevSafe descaler 1%, BevSafe tank and line cleaner 4.5%). The coupons were then removed from the cleaner and the clean visual rankings were recorded. The coupons were allowed to dry overnight before clean weights were recorded. Visual rankings were based on the key below.

Visual Rankings

1= 100% soil removed

2= 75% soil removed

3= 50% soil removed

4= 25% soil removed

5= 0% soil removed |

Results:

Cleaner	Soil	Dirty Visual	Clean Visual	AVG Clean Visual	AVG Overall
BevSafe Descaler 1%	Pigeon Cove Tea Leaves	5	1.5	1.7	1.75
		5	2.0		
		5	1.5		
	Coffee	5	2.5	1.8	
		5	1.5		
		5	1.5		
BevSafe Line and Tank Cleaner 4.5%	Pigeon Cove Tea Leaves	5	3	3.2	2.75
		5	3.5		
		5	3		
	Coffee	5	3	2.3	
		5	2		
		5	2		

Cleaner	Soil	Initial wt of cont.	Final wt of cont.	%Cont Removed	% AVG	% Overall
BevSafe Descaler 1%	Pigeon Cove Tea Leaves	0.0645	0.0000	100.00	96.79	83.36
		0.1169	0.0037	96.83		
		0.1096	0.0071	93.52		
	Coffee	0.0187	0.0061	67.38	69.93	
		0.0041	0.0011	73.17		
		0.0052	0.0016	69.23		
BevSafe Line and Tank Cleaner 4.5%	Pigeon Cove Tea Leaves	0.1495	0.0169	88.70	82.55	76.19
		0.0944	0.0268	71.61		

	0.1760	0.0223	87.33	
Coffee	0.0062	0.0017	72.58	69.82
	0.0032	0.0009	71.88	
	0.0020	0.0007	65.00	

Summary:

Conclusion: The BevSafe Descaler 1% was effective in removing the tea staining and tea leaves from the stainless steel coupons, but was less effective at removing the coffee staining and coffee grounds. The BevSafe Line and Tank Cleaner was not effective in removing either soil