CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2024
DateRun:	07/10/2024
Experimenters:	Amelia Wagner
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Plastic, Stainless Steel
PartType:	Coupon
Contaminants:	Food
Cleaning Methods:	Immersion/Soak
Analytical Methods:	Gravimetric, Visual
Purpose:	Benchmark testing of ICT 1648L for Craft Beverage project.
Experimental Procedure:	Three pre weighed coupons of each substrate, plastic and stainless steel, were used per soil for a total of 12 coupons tested in total. Half of the stainless steel and half of the plastic coupons were soiled with tea and tea leaves with a swab. The other half of each substratenwere 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 10 minutes of unheated immersion at in the cleaner with a stir bar set to 300 rpm. The cleaner was used at a 10% concentration, the dilution of the RTU concentrate . 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	Substrate	Soil	Initial wt of cont.	Final wt of cont.	%Cont Removed	AVG % soil	AVG % substrate	Overall %
ICT 1648L 10% (RTU)	Stainless Steel	Tea Leaves	0.2638	0.0058	97.80	91.97	80.02	66.49
			0.2361	0.0317	86.57			
			0.3023	0.0256	91.53			
		Coffee	0.0608	0.0181	70.23	68.06		
			0.0621	0.0206	66.83			
			0.0359	0.0118	67.13			
	Plastic	Tea Leaves	0.1114	0.0309	72.26	77.16	52.97	
			0.1684	0.0312	81.47			
			0.1366	0.0304	77.75			
		Coffee	0.0420	0.0318	24.29	28.79		
			0.0163	0.0104	36.20			
			0.0143	0.0106	25.8			

Visual:

Cleaner	Substrate	Soil	Visual	AVG soil	AVG substrate	Overall
ICT 1648L 10% (RTU)	Stainless Steel	Tea Leaves	1	1.2	1.1	1.0
			1			
			1.5			
		Coffee	1	1		
			1			
			1			
	Plastic	Tea Leaves	1	1	1	
			1			
			1			

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		Coffee	1	1		
			1				
			1				

Observations:

The cleaner left an oily residue on all coupons after air drying over night. No staining observed.

Summary:

Substrates:	Plastic, Stainless Steel				
Contaminants:	Food				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Innovative Chemical Technologies, Inc.	Virdivis FB1000 (ICT 1648L)	10% (RTU)		☑	

Conclusion:

The ICT 1648L 10% (RTU) was highly effective in removing both soils from both coupons utilizing unheated immersion. There was no staining witnessed, and a majority of the coupons were visually perfect. The cleaner did leave an oily residue on all of the coupons after air drying overnight. This residue was likely picked up by the gravimetric balance, thus the gravimetric data analysis is likely underestimated. The plastic coupons seem to be more effected/ retain more of this residue than the stainless steel coupons.