CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2022

DateRun: 08/10/2022

Experimenters: Amelia Wagner

ClientType: Food Manufacturer

ProjectNumber: Project #1

Substrates: Stainless Steel

PartType: Coupon

Contaminants: Food

Cleaning Methods: Ultrasonics

Analytical Methods: Gravimetric

Purpose: To evaluate the effective ness of LFE Enzymatic Cleaner 2.5% (140 F) and Caprylic Acid 0.15 % in cleaning and sanitizing stainless steel alloys 304 and 316.

Experimental Procedure: Six stainless steel coupons were used, three being the 304 alloy and three being the 316 alloy. The initial weights of each coupon were taken. The coupons were then soiled with Cedar's Chocolate Hummus by wiping a thin layer, but leaving some chunky spots, and the bottom half of the substrate. The dirty weights of each coupon were then taken. Coupons were immersed in the heated cleaner LFE Enzymatic Cleaner 2.5% (130 F) and put in the ultrasonics machine for 20 mins. Directly after removing the coupons from the cleaner, they were then immersed in the sanitizer Caprylic Acid 0.15% at room temperature (68 F) and put in the ultrasonics machine for five minutes. The cleaned coupons were left to air dry for 8 hours. ATP levels were measured using Hygenia ATP Swabs followed by clean weights being taken for each coupon.

Results: Gravimetric Results

Cleaner	Substrate	Initial wt of cont.	Final wt of cont.	%Cont Removed	% AVG	% Overall
LFE Enzymatic Cleaner	Stainless steel 304	0.2825	0.0076	97.31	98.59	98.58
	stainless steel 304	0.3168	0.0042	98.67		
	stainless steel 304	0.2388	0.0005	99.79		
LFE Enzymatic Cleaner	Stainless Steel 316	0.2500	0.0056	97.76	98.57	
	Stainless steel 316	0.2429	0.0026	98.93		
	Stainless Steel 316	0.2241	0.0022	99.02		

ATP Results

Cleaner	Substrate	ATP Level	Avg	Overall
Caprylic Acid Sanitizer	Stainless Steel 304	5	9.3	12.8
		11		
		12		
Caprylic Acid Sanitizer	Stainless Steel 316	6	16.3	
		21		
		21		

Summary:

Conclusion: LFE Enzymatic Cleaner 2.5% (130 F) is an effective cleaner for stainless steel alloys 304 and 316. Caprylic Acid is not an effective sanitizer for steel alloys 304 and 316.

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