

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2022

DateRun: 08/09/2022

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 5229 AFCO cleaner and 4325 PerOx sanitizer 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 Hommus 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 5229 AFCO 1.1% (160 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 4325 PerOx 0.05% 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: | Cleaner    | Substrate           | Initial wt | Dirty wt | Clean wt. | Initial wt of cont. | Final wt of cont. | %Cont Removed | % AVG | % Overall | ATP Level | AVG   | Overall |
|----------|------------|---------------------|------------|----------|-----------|---------------------|-------------------|---------------|-------|-----------|-----------|-------|---------|
|          | 5229 AFCO  | Stainless steel 304 | 60.952     | 61.0901  | 60.9654   | 0.1381              | 0.0134            | 90.30         | 80.94 | 74.69     |           |       |         |
|          |            | Stainless steel 304 | 60.888     | 60.9767  | 60.9158   | 0.0887              | 0.0278            | 68.66         |       |           |           |       |         |
|          |            | Stainless steel 304 | 60.99      | 61.0842  | 61.0052   | 0.0942              | 0.0152            | 83.86         |       |           |           |       |         |
|          | 5229 AFCO  | Stainless Steel 316 | 49.3098    | 49.4131  | 49.3436   | 0.1033              | 0.0338            | 67.28         | 68.45 |           |           |       |         |
|          |            | Stainless Steel 316 | 49.4612    | 49.5326  | 49.4963   | 0.0714              | 0.0351            | 50.84         |       |           |           |       |         |
|          |            | Stainless Steel 316 | 49.4888    | 49.7806  | 49.5261   | 0.2918              | 0.0373            | 87.22         |       |           |           |       |         |
|          | 4325 PerOx | Stainless steel 304 |            |          |           |                     |                   |               |       |           | 0.00      | 0.00  | 10.67   |
|          |            | Stainless steel 304 |            |          |           |                     |                   |               |       |           | 0.00      |       |         |
|          |            | Stainless steel 304 |            |          |           |                     |                   |               |       |           | 0.00      |       |         |
|          | 4325 PerOx | Stainless Steel 316 |            |          |           |                     |                   |               |       |           | 22.00     | 21.33 |         |
|          |            | Stainless Steel 316 |            |          |           |                     |                   |               |       |           | 4.00      |       |         |
|          |            | Stainless Steel 316 |            |          |           |                     |                   |               |       |           | 38.00     |       |         |

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Visually, cleaners did not remove all of the hummus off of each coupon after the cleaning step. During the sanitizing step the rest of the hommus was removed.

Summary:

Conclusion: The 5229 AFCO 1.1% was not the most effective cleaner for removing chocolate hummus from stainless steel. The 4325 PerOx 0.05 was a reasonably effective sanitizer for sanitizing stainless steel.