

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2024  
 DateRun: 03/06/2024  
 Experimenters: Amelia Wagner  
 ClientType: Food Manufacturer  
 ProjectNumber: Project #2  
 Substrates: Stainless Steel  
 PartType: Coupon  
 Contaminants: Food  
 Cleaning Methods: Ultrasonics  
 Analytical Methods: Gravimetric

Purpose: To compare the efficacy of Enzo NRF enzyme cleaner at two different temperatures (90F vs 130F)

Experimental Procedure: Six stainless steel coupons were used, three to be cleaned at 90 F and three to be cleaned at 130 F. 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, on the bottom half of the substrate. A heat gun was applied to each coupon at its highest temperature for 2 mins each to mimic the pasteurization process that happens within the mixing tanks, allowing the soil to better adhere to the coupons. After the coupons cooled, their dirty weights were taken. The coupons were then subjected to 10 minutes of heated ultrasonics (three at 90 F and three at 130F) using the Enzo NRF enzymatic cleaner at a 2% dilution. The coupons were then removed and allowed to air dry before the clean weights were taken.

| Results: | Cleaner     | Temp  | Initial wt of cont. | Final wt of cont. | %Cont Removed | %AVG  |
|----------|-------------|-------|---------------------|-------------------|---------------|-------|
|          | Enzo NRF 2% | 90 F  | 0.0664              | 0.0000            | 100.00        | 99.77 |
|          |             |       | 0.0295              | 0.0002            | 99.32         |       |
|          |             |       | 0.0498              | 0.0000            | 100.00        |       |
|          |             | 130 F | 0.0301              | 0.0002            | 99.34         | 99.36 |
|          |             |       | 0.0272              | 0.0003            | 98.90         |       |
|          |             |       | 0.0627              | 0.0001            | 99.84         |       |

Summary:

Conclusion: The Enzo NRF Enzymatic Cleaner at 2% dilution had effectively the same efficacy at both 90 F and 130 F.