

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2010
 DateRun: 12/21/2010
 Experimenters: Kathleen Tenaglia
 ClientType: General
 ProjectNumber: Project #1
 Substrates: Stainless Steel, Steel
 PartType: Coupon
 Contaminants: Carbon Deposits, Greases, Oil, Food
 Cleaning Methods: Manual Wipe
 Analytical Methods: Gravimetric
 Purpose: To compare TMI Kitchen cleaner to alternative cleaners for kitchen soil cleaning.

Experimental Procedure:
Soil Preparation
 A mixture of three cooking oils/greases was made. A melt blend of 33% vegetable shortening, 33% lard, 33% vegetable oil and 1% carbon lampblack was made up fresh for the testing. Care was taken in the application of the soil onto the coupons so that light and heavy areas were avoided. Allow the soiled tiles to dry for 24 hours at room temperature.

Four sets of two coupons (Stainless Steel and Painted Steel) were initially weighed and recorded, then covered with DCC17 (Grease) using a hand held swab.

Cleaning Test
 Place a soiled tile in the tray of the abrasion tester such that the direction of the soiling is perpendicular to the direction of the wiping media. Products were applied to the coated surfaces using a 3-5 sprays from manual spray pump and 4-7 sprays onto the reinforced Wypal X60 paper towel attached to the cleaning instrument. The cleaning was performed using Gardner Straightline washability unit and conducted for the prescribed 5 cycles (10 strokes). Following the initial cycle, if there was no discernable difference between the products and an additional 15 cycles were run.

Products were selected based on kitchen cleaning needs and health and safety options.

Results: All four products were successful in removing the kitchen soil using manual wiping application. The table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

| Cleaner | Initial wt | Final wt | % Removed | Average |
|--|------------|----------|-----------|---------|
| TMI Kitchen Cleaner (Stainless Steel) | | | | |
| | 0.3727 | 0.0135 | 96.38 | 95.44 |
| | 0.6116 | 0.0246 | 95.98 | |
| | 0.3248 | 0.0196 | 93.97 | |
| TMI Kitchen Cleaner (Painted Steel) | | | | |
| | 0.6018 | 0.0053 | 99.12 | 95.59 |
| | 0.8641 | 0.0172 | 98.01 | |
| | 0.4629 | 0.0480 | 89.63 | |
| Industrial Cleaner and Degreaser (Stainless Steel) | | | | |
| | 1.9145 | 0.0561 | 97.07 | 95.86 |
| | 0.6253 | 0.0132 | 97.89 | |
| | 0.6249 | 0.0461 | 92.62 | |
| Industrial Cleaner and Degreaser (Painted Steel) | | | | |
| | 0.5589 | 0.0041 | 99.27 | 97.34 |
| | 0.7796 | 0.0285 | 96.34 | |
| | 0.6590 | 0.0236 | 96.42 | |
| The Natural Heavy Duty Degreaser (Stainless Steel) | | | | |
| | 1.2148 | 0.0087 | 99.28 | 94.52 |
| | 0.7346 | 0.0409 | 94.43 | |
| | 0.8098 | 0.0822 | 89.85 | |
| The Natural Heavy Duty Degreaser (Painted Steel) | | | | |
| | 1.0162 | 0.0615 | 93.95 | 95.76 |
| | 0.8688 | 0.0341 | 96.08 | |
| | 0.9299 | 0.0256 | 97.25 | |
| The Natural Spray and Wipe (Stainless Steel) | | | | |

CLEANING LABORATORY EVALUATION SUMMARY

| | | | | |
|--|--------|--------|-------|-------|
| | 0.5188 | 0.0048 | 99.07 | 99.48 |
| | 0.8586 | 0.0007 | 99.92 | |
| | 0.3919 | 0.0022 | 99.44 | |
| The Natural Spray and Wipe (Painted Steel) | | | | |
| | 0.9911 | 0.0180 | 98.18 | 98.32 |
| | 0.6903 | 0.0102 | 98.52 | |
| | 0.6904 | 0.0121 | 98.25 | |

Summary:

| | | | | | |
|--|--|---------------|--------------------|-------------------------------------|----------------------|
| Substrates: | Stainless Steel, Steel | | | | |
| Contaminants: | Carbon Deposits, Greases, Oil, Food | | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| The Clean Environment Co | Natural N-14 Heavy Duty Degreaser and Cleaner | 2 | 95.14 | <input checked="" type="checkbox"/> | |
| 1st EnviroSafety Inc. - No Longer Exists | Organic Cleaner/Degreaser - For Comparison Purposes Only | 100 | 96.60 | <input checked="" type="checkbox"/> | |

Conclusion:

All four products worked against DCC17 Grease. The most effective, according to this particular run, was The Natural Spray and Wipe, followed by the Industrial Cleaner and Degreaser.