

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 25
 DateRun: 12/17/2024
 Experimenters: Tatyanna Moreland Junior, Cindy McClaughlin
 ClientType: Cleaner Manufacturer
 ProjectNumber: Project #1
 Substrates: Ceramics, Plastic, Stainless Steel
 PartType: Coupon
 Contaminants: DCC-17
 Cleaning Methods: Manual Wipe
 Analytical Methods: Gravimetric

Purpose: To test the efficacy of MPlus Degreaser against a comparative degreasing product, 7th Generation All Purpose, at removing DCC-17 grease from ceramic, plastic, and stainless steel.

Experimental Procedure: Nine pre-weighed coupons per cleaner (three ceramic, three plastic, and three stainless steel) were soiled with 0.25 grams of DCC-17 grease soil using a handheld swab and air-dried for 24 hours at room temperature (68°F). The contaminated coupons were weighed after air drying to determine the contaminated (cont.) weight. Three coupons of the same substrate were placed onto the Straight Line Washing (SLW) Unit with Wypall X60 attached to the cleaning sled. The Wypall X60 reinforced wipe and each coupon on the SLW unit were treated with three sprays each before running the SLW unit for 20 cycles (30 seconds). At the end of the cleaning cycle, the coupons were air-dried overnight before the final weights were recorded.

Results:

| Cleaner | Substrate | Initial wt. of cont. | Final wt. of cont. | % Cont. Removed | Average % Removal | Overall Cleaner Average % Removal |
|----------------------------|-----------------|----------------------|--------------------|-----------------|-------------------|-----------------------------------|
| MPlus Degreaser | Ceramic | 0.2774 | 0.0074 | 97.33 | 98.21 | 96.74 |
| | | 0.2037 | 0.0017 | 99.17 | | |
| | | 0.1383 | 0.0026 | 98.12 | | |
| | Plastic | 0.2603 | 0.0117 | 95.51 | 95.13 | |
| | | 0.1231 | 0.0111 | 90.98 | | |
| | | 0.2377 | 0.0026 | 98.91 | | |
| | Stainless Steel | 0.3082 | 0.0117 | 96.20 | 96.87 | |
| | | 0.2737 | 0.0060 | 97.81 | | |
| | | 0.2563 | 0.0087 | 96.61 | | |
| 7th Generation All Purpose | Ceramic | 0.1279 | 0.0001 | 99.92 | 99.97 | 98.65 |
| | | 0.3077 | 0.0000 | 100.00 | | |
| | | 0.1837 | 0.0000 | 100.00 | | |
| | Plastic | 0.1623 | 0.0054 | 96.67 | 98.53 | |
| | | 0.1773 | 0.0001 | 99.94 | | |
| | | 0.1873 | 0.0019 | 98.99 | | |
| | Stainless Steel | 0.2044 | 0.0004 | 99.80 | 97.43 | |
| | | 0.0792 | 0.0045 | 94.32 | | |
| | | 0.1796 | 0.0033 | 98.16 | | |

Summary:

| | | | | | |
|----------------------|------------------------------------|---------------|--------------------|-------------------------------------|----------------------|
| Substrates: | Ceramics, Plastic, Stainless Steel | | | | |
| Contaminants: | DCC-17 | | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| M Plus Inc | MPlus Degreaser | 100% | 96.74 | <input checked="" type="checkbox"/> | |
| Seventh Generation | All-Purpose Natural Cleaner | 100% | 98.65 | <input checked="" type="checkbox"/> | |

Conclusion:

MPlus Degreaser and 7th Generation All Purpose Cleaner were both effective in removing grease (DCC-17) from ceramic, plastic, and stainless steel.