

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2025

DateRun: 01/08/2025

Experimenters: Alicia McCarthy, Rachael Rososky

ClientType: Cleaner Manufacturer

ProjectNumber: Project #1

Substrates: Ceramics, Plastic, Painted metal

PartType: Coupon

Contaminants: Hucker's Soil

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: Testing the efficacy of MPlus to 7th Generation All Purpose for removing Hucker's Soil from ceramic, plastic, and painted metal.

Experimental Procedure: Nine pre-weighed coupons per cleaner (three ceramic, three plastic, and three painted metal) were soiled with 0.5 grams of Hucker's Soil using a handheld swab and air-dried for 24 hours at room temperature (68°F). The contaminated coupons were weighed after 24 hours 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 | Ceramic | 0.2768 | 0.0796 | 71.24 | 74.56 | 80.33 |
| | | | 0.3069 | 0.0724 | 76.41 | | |
| | | | 0.2583 | 0.0619 | 76.04 | | |
| | | Plastic | 0.2509 | 0.0261 | 89.60 | 94.29 | |
| | | | 0.2728 | 0.0178 | 93.48 | | |
| | | | 0.2589 | 0.0005 | 99.81 | | |
| | | Painted Metal | 0.2662 | 0.0791 | 70.29 | 72.15 | |
| | | | 0.2620 | 0.0536 | 79.54 | | |
| | | | 0.2444 | 0.0816 | 66.61 | | |
| | 7th Generation All Purpose | Ceramic | 0.2537 | 0.0504 | 80.13 | 84.02 | 86.33 |
| | | | 0.2717 | 0.0281 | 89.66 | | |
| | | | 0.2446 | 0.0434 | 82.26 | | |
| | | Plastic | 0.2728 | 0.0201 | 92.63 | 97.07 | |
| | | | 0.2677 | 0.0024 | 99.10 | | |
| | | | 0.2807 | 0.0015 | 99.47 | | |
| | | Painted Metal | 0.2580 | 0.0653 | 74.69 | 77.90 | |
| | | | 0.2782 | 0.0307 | 88.96 | | |
| | | | 0.2673 | 0.0801 | 70.03 | | |

| | | | | | | |
|----------|----------------------|----------------------------------|---------------|--------------------|-------------------------------------|----------------------|
| Summary: | Substrates: | Ceramics, Plastic, Painted metal | | | | |
| | Contaminants: | Hucker's Soil | | | | |
| | Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| | M Plus Inc | MPlus All Purpose | 100% | 80.00 | <input checked="" type="checkbox"/> | |
| | Seventh Generation | All-Purpose Natural Cleaner | 100% | 86.00 | <input checked="" type="checkbox"/> | |

Conclusion: MPlus was effective overall at removing Hucker's Soil from various substrates and performed similarly to 7th Generation All Purpose cleaner.