

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2019

DateRun: 11/06/2019

Experimenters: Zoe Lawson, Othon Pagounes, Tatyanna Moreland Junior

ClientType: Cleaner Manufacturer

ProjectNumber: Project #1

Substrates: Ceramics, Plastic, Painted metal

PartType: Part

Contaminants: Hucker's Soil, Food

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: To evaluate two all-purpose cleaners on the effectiveness of removing Hucker's Soil on ceramic, plastic and painted metal surfaces.

Experimental Procedure: Eighteen pre-weighed coupons, three for each substrate per cleaner, were contaminated with 0.5 g of Hucker's soil (44.2% Distilled water, 13.5% Evaporated milk, 8.8% Salted butter, 8.8% Stone ground wheat flour, 8.8% Egg yolk, 0.9% Printer's ink with boiled linseed oil, 2.7% Saline solution, 3.5% India ink) distributed onto each coupon. The dirty weights were recorded after the coupons had dried for two hours at room temperature (68°F). Three coupons of the same substrate were aligned into a Single Line Washing Unit (SLW) with Wypall X60 attached to the cleaning sled. The Wypall X60 reinforced wipe along with the coupons were all sprayed three times with the cleaner and then allowed to soak for 30 seconds. Afterwards the Single Line Washing Unit (SLW) was activated and cleaned for 20 cycles. The clean coupons were all then allowed to dry overnight at room temperature before the final weights were recorded.

## Results:

| Cleaner   | Substrate     | Initial wt. of cont. (g) | Final wt. of cont. (g) | % Cont. Removed | Average % Content Removed | Overall Average % Content Removed |
|---|---------------|--------------------------|------------------------|-----------------|---------------------------|-----------------------------------|
| Cleanyst All Purpose Cleaner                    | Ceramic       | 0.5370                   | 0.0292                 | 94.56           | 88.66                     | 91.57                             |
|   |               | 0.3009                   | 0.0493                 | 83.62           |                           |                                   |
|   |               | 0.5839                   | 0.0712                 | 87.81           |                           |                                   |
|   | Plastic       | 0.4914                   | 0.0290                 | 94.10           | 92.94                     |                                   |
|   |               | 0.4666                   | 0.0357                 | 92.35           |                           |                                   |
|   |               | 0.3821                   | 0.0291                 | 92.38           |                           |                                   |
|   | Painted Metal | 0.3311                   | 0.0336                 | 89.85           | 93.10                     |                                   |
|   |               | 0.5185                   | 0.0440                 | 91.51           |                           |                                   |
|   |               | 0.5199                   | 0.0107                 | 97.94           |                           |                                   |
| Mrs. Meyers Lemon Verbene Multi Surface Cleaner | Ceramic       | 0.3797                   | 0.0376                 | 90.10           | 89.77                     | 92.83                             |
|   |               | 0.4886                   | 0.0482                 | 90.14           |                           |                                   |
|   |               | 0.5863                   | 0.064                  | 89.08           |                           |                                   |
|   | Plastic       | 0.5574                   | 0.0532                 | 90.46           | 90.66                     |                                   |
|   |               | 0.5964                   | 0.039                  | 93.46           |                           |                                   |
|   |               | 0.6387                   | 0.0763                 | 88.05           |                           |                                   |
|   | Painted Metal | 0.5811                   | 0.0101                 | 98.26           | 98.06                     |                                   |
|   |               | 0.5089                   | 0.0037                 | 99.27           |                           |                                   |
|   |               | 0.5887                   | 0.0198                 | 96.64           |                           |                                   |

## Summary:

|                      |                                     |                                  |                    |                                     |                      |
|----------------------|-------------------------------------|----------------------------------|--------------------|-------------------------------------|----------------------|
| <b>Substrates:</b>   |                                     | Ceramics, Plastic, Painted metal |                    |                                     |                      |
| <b>Contaminants:</b> |                                     | Hucker's Soil, Food              |                    |                                     |                      |
| <b>Company Name:</b> | <b>Product Name:</b>                | <b>Conc.:</b>                    | <b>Efficiency:</b> | <b>Effective:</b>                   | <b>Observations:</b> |
| Sprayway Inc. (PLZ)  | Lemon Fine Free Oven Cleaner XL 200 | 100                              | 93.00              | <input checked="" type="checkbox"/> | 92.83                |
| Cleanyst             | Cleanyst All Purpose                | 100                              | 92.00              | <input checked="" type="checkbox"/> | 91.57                |

## Conclusion:

The Cleanyst All Purpose Cleaner and the Mrs. Meyers Lemon Verbene Multi Surface Cleaner are equally effective in cleaning multiple surfaces.