# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2023

DateRun: 10/04/2023

Experimenters: Amelia Wagner

ClientType: Cleaner Manufacturer

ProjectNumber: Project #5

Substrates: Ceramics, Plastic, Painted metal

PartType: Coupon

Contaminants: Hucker's Soil

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: To test the efficacy of Pathosan's all purpose cleaner compared to another all purpose cleaner on the market.

Experimental Procedure: Eighteen pre-weighed coupons, three of each substrate for each cleaner, were contaminated with Hucker's Soil Formulation (Jiff Creamy Peanut Butter 9.2%, Salted Butter 9.2%, Arrowhead Mills stone-ground wheat flour 9.2%, Egg Yolk 9.2%, Evaporated milk 13.8%, Distilled water 45.8%, Printer's ink with boiled linseed oil 0.9%, Shaws saline Solution 2.7%) using a handheld swab and dried for two hours at room temperature (68 F). The contaminated coupons were weighed before placing three coupons per cleaner of the same substrate into a Gardner Straight Line Washability (SLW) unit. A Kimberly-Clark Wypal reinforced paper towel was attached to the cleaning sled. The Wypal and each coupon were treated with three sprays and cleaned for 20 cycles (~30 seconds of cleaning). Clean coupons dried for 24 hours before final weights were taken.

Results:

| Cleaner | Coupon | Initial wt of cont. | Final wt of cont. | %Cont Removed | % AVG | % Overall |
|---|---|---|---|---|---|---|
| Pathosan's ECA Cleaner Formula | Ceramic | 0.0665 | 0.0009 | 98.65 | 92.05 | 79.53 |
| | | 0.0163 | 0.0017 | 89.57 | | |
| | | 0.0141 | 0.0017 | 87.94 | | |
| | Painted Metal | 0.0216 | 0.0029 | 86.57 | 71.23 | |
| | | 0.0054 | 0.0031 | 42.59 | | |
| | | 0.0194 | 0.0030 | 84.54 | | |
| | Plastic | 0.0630 | 0.0125 | 80.16 | 75.32 | |
| | | 0.0545 | 0.0190 | 65.14 | | |
| | | 0.0993 | 0.0192 | 80.66 | | |
| Simple Green | Ceramic | 0.1165 | 0.0018 | 98.45 | 97.83 | 75.70 |
| | | 0.2048 | 0.0021 | 98.97 | | |
| | | 0.0557 | 0.0022 | 96.05 | | |
| | Painted Metal | 0.0226 | 0.0091 | 59.73 | 68.60 | |
| | | 0.0414 | 0.0110 | 73.43 | | |
| | | 0.0976 | 0.0267 | 72.64 | | |
| | Plastic | 0.3683 | 0.0572 | 84.47 | 60.68 | |
| | | 0.1908 | 0.0388 | 79.66 | | |
| | | 0.0681 | 0.0559 | 17.91 | | |

Summary:

Conclusion: Pathosan's ECA Cleaner is an effective all purpose cleaner. Both the ECA cleaner and Simple Green were very effective in removing soil from ceramic. Both cleaners had less effective performance in removing soil from painted metal and plastic, however the ECA cleaner performed better than Simple Green on these two substrates.