

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2019

DateRun: 08/21/2019

Experimenters: Meet Patel

ClientType: Cleaner Manufacturer

ProjectNumber: Project #1

Substrates: Ceramics

PartType: Coupon

Contaminants: Hucker's Soil

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric, Visual

Purpose: To evaluate the effectiveness of Annie's All-Purpose cleaner to a comparative product at removing Hucker's soil from various substrates.

Experimental Procedure: Eighteen pre-weighed coupons, three per substrate for each cleaner, was contaminated with ~0.05 - 0.1 gram of Hucker's soil (Evaporated Milk; 26.5%, Creamy Peanut Butter; 17%, Salted Butter; 17%, Stone Ground Wheat Flour; 17%, Linseed Oil; 2.25%, Saline Solution; 5.25%, India Ink; 6.8%, Lemon Juice; 8.2%) for each cleaner. Coupons aged for two hours at room temperature (68°F) before dirty weights were recorded. Coupons of the same substrate were placed into the Straight-Line Washability (SLW) unit, three at a time, and treated once with the cleaner. A Wypall was attached to the SLW sled and treated twice with the cleaner. Each test ran 20 cycles (~30 seconds of cleaning). Coupons air-dried at room temperature (68°F) for one hour before final weights were recorded.

Results:

| Cleaner | Substrate | Initial wt. of Cont. | Final wt. Cont. | % Cont. Removed | Average% Removal | Overall % Removal |
|---------|-----------|----------------------|-----------------|-----------------|------------------|-------------------|
| 1 | A | 0.0730 | 0.0037 | 94.93 | 91.43 | 84.31 |
| | | 0.0470 | 0.0060 | 87.23 | | |
| | | 0.0368 | 0.0029 | 92.12 | | |
| | B | 0.0705 | 0.0130 | 81.56 | 86.02 | |
| | | 0.0445 | 0.0081 | 81.80 | | |
| | | 0.0339 | 0.0018 | 94.69 | | |
| | C | 0.0579 | 0.0150 | 74.10 | 75.49 | |
| | | 0.0233 | 0.0048 | 79.40 | | |
| | | 0.0300 | 0.0081 | 73.00 | | |
| 2 | A | 0.0524 | 0.0055 | 89.50 | 85.12 | 84.31 |
| | | 0.0449 | 0.0086 | 80.85 | | |
| | | 0.0387 | 0.0058 | 85.02 | | |
| | B | 0.1219 | 0.0147 | 87.94 | 84.02 | |
| | | 0.1063 | 0.0133 | 87.49 | | |
| | | 0.0779 | 0.0182 | 76.64 | | |
| | C | 0.3680 | 0.0198 | 94.62 | 83.79 | |
| | | 0.0817 | 0.0121 | 85.19 | | |
| | | 0.1515 | 0.0431 | 71.55 | | |

Visual Observations: All tested substrates showed visible streaking and any residual soil that was left over, took on solid form.

Summary:

| | | | | | |
|-------------------------|---|---------------|--------------------|-------------------------------------|----------------------|
| Substrates: | Ceramics | | | | |
| Contaminants: | Hucker's Soil | | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| Annie's Pure and Simple | Annie's Pure and Simple All Purpose Cleaner - Pink Grapefruit | 100 | 84.31 | <input checked="" type="checkbox"/> | |
| Method | Method All-Purpose Pink Grapefruit | 100 | 84.31 | <input checked="" type="checkbox"/> | |

Conclusion: Annie's Pure and Simple All-Purpose Cleaner was as effective as Method All-Purpose at removing Hucker's Soil from ceramic, plastic, and painted metal.