

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2009
DateRun: 01/27/2009
Experimenters: Jason Marshall, Junhee Cho
ClientType: Community Group
ProjectNumber: Project #1
Substrates: Ceramics, Plastic, Steel
PartType: Coupon
Contaminants: Hucker's Soil
Cleaning Methods: Manual Wipe
Analytical Methods: Gravimetric
Purpose: To evaluate supplied recipes for all purpose cleaning

Experimental Procedure: The supplied cleaning products were made following the supplied recipe. A fourth product, selected by the lab, was selected by the lab and used at full strength for all purpose cleaning. Preweighed ceramic, painted steel and plastic coupons were coated with Hucker's Soil Formulation (Jif 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 allowed to dry for 24 hours at room temperature. The contaminated coupons were weighed again to determine the amount of soil added.

Three coupons were placed into a Gardner Straight Line Washability unit. A Kimberly Clark Reinforced paper towel was attached to the cleaning sled and soaked with 5-7 sprays of cleaning solutions. Each coupon was sprayed 7-10 times with the same cleaning solution. The solution was allowed to penetrate for 30 seconds followed by cleaning in the SLW unit for 20 cycles (~33 seconds). At the end of the cleaning, coupons were wiped using a water-soaked paper towel to rinse any cleaner residue (if necessary and then wiped once with a dry paper towel. Final weights were measured, and efficiencies were calculated and recorded.

Results: The supplied products and industry product were effective in removing the Hucker's Soil with a manual wiping action. The table lists the amount of soil initially added and the amount remaining after cleaning and the product efficiency for each coupon cleaned.

| Cleaner | Initial wt | Final wt | % Removed |
|-------------------------------|------------|----------|-----------|
| BWG Fantastic - ceramic | 0.1856 | 0.0355 | 80.87 |
| | 0.3117 | 0.0353 | 88.68 |
| | 0.2453 | 0.0402 | 83.61 |
| BWG Fantastic - painted steel | 0.1303 | 0.0182 | 86.03 |
| | 0.2120 | 0.0118 | 94.43 |
| | 0.2250 | 0.0207 | 90.80 |
| BWG Fantastic - plastic | 0.2821 | 0.0280 | 90.07 |
| | 0.1742 | 0.0300 | 82.78 |
| | 0.0438 | -0.0481 | 209.82 |
| BWG Magic - ceramic | 0.0865 | 0.0161 | 81.39 |
| | 0.2554 | 0.0171 | 93.30 |
| | 0.0881 | 0.0195 | 77.87 |
| BWG Magic - painted steel | 0.1057 | 0.0196 | 81.46 |
| | 0.1115 | 0.0223 | 80.00 |
| | 0.5981 | 0.0316 | 94.72 |
| BWG Magic - plastic | 0.2272 | 0.0040 | 98.24 |
| | 0.0380 | -0.0047 | 112.37 |
| | 0.0224 | -0.1141 | 609.38 |
| BWG Fabulous - ceramic | 0.1214 | 0.0155 | 87.23 |
| | 0.1747 | 0.0326 | 81.34 |

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|---------------------------------|--------|---------|--------|
| | 0.1589 | 0.0223 | 85.97 |
| BWG Fabulous - painted steel | 0.1628 | 0.0193 | 88.14 |
| | 0.1543 | 0.0155 | 89.95 |
| | 0.2495 | 0.0214 | 91.42 |
| BWG Fabulous - plastic | 0.2322 | -0.0141 | 106.07 |
| | 0.1486 | 0.0064 | 95.69 |
| | 0.1990 | 0.0171 | 91.41 |
| Clorox Formula 409 AP - ceramic | 0.4108 | 0.0248 | 93.96 |
| | 0.1033 | 0.0397 | 61.57 |
| | 0.3659 | 0.0353 | 90.35 |

Summary:

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|------------------------|---------------------------------|---------------|--------------------|--------------------------|----------------------|
| Substrates: | Ceramics, Plastic, Steel | | | | |
| Contaminants: | Hucker's Soil | | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| Brazilian Womens Group | Fantastico Multi-Usa | 100 | | <input type="checkbox"/> | |
| Brazilian Womens Group | Sabao Magico | 100 | | <input type="checkbox"/> | |
| Brazilian Womens Group | Sensacional Limpa Piso | 100 | | <input type="checkbox"/> | |
| Clorox Company | Formula 409 All Purpose Cleaner | 100 | | <input type="checkbox"/> | |

Conclusion:

The supplied product had an overall average efficiency greater than 85% and would be considered effective based on the SSL testing methodology for all purpose cleaning and for Green Seal GS 37 requirements.