

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2011  
DateRun: 02/15/2011  
Experimenters: Junhee Cho, Timothy Weil, Johnny Le, Kathleen Tenaglia  
ClientType: Cleaner Manufacturer  
ProjectNumber: Project #1  
Substrates: Ceramics, Plastic, Steel  
PartType: Coupon  
Contaminants: Hucker's Soil  
Cleaning Methods: Manual Wipe  
Analytical Methods: Gravimetric  
Purpose: To test Alpha Blue Care for all purpose cleaning

**Experimental Procedure:** The supplied cleaning product was diluted with DI water at room temperature to vendor recommended concentration for all purpose cleaning (2 oz per gallon or 1.56%). A comparative product was used at a standard 2% dilution rate.

Prewriteed ceramic, plastic G-10 and painted steel coupons were coated with Hucker's Soil Formulation (Jif Creamy Peanut Butter, Salted Butter, Arrowhead Mills stone ground wheat flour, Egg Yolk, Evaporated milk, Distilled water, Printer's ink with boiled linseed oil, Shaws saline solution) using a hand held 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 Wypal 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 cleaning unit was run for 20 cycles (~33 seconds). At the end of the cleaning, coupons were wiped once with a dry paper towel. Final weights were recorded, efficiencies were calculated and recorded.

**Results:** The supplied product was more effective at removing the Hucker's soil from the three surfaces using manual wiping than the non-green comparative product, removing more than 85% of the Hucker's soil. The table lists the amount of soil added, the amount remaining after cleaning and the calculated efficiency for each coupon cleaned.

| Cleaner                         | Initial wt | Final wt | % Removed | Product Ave | Overall Ave |
|---------------------------------|------------|----------|-----------|-------------|-------------|
| Alpha Blue Care (Ceramic)       | 0.0742     | 0.0226   | 69.54     | 78.99       | 85.58       |
|                                 | 0.0605     | 0.0124   | 79.50     |             |             |
|                                 | 0.0787     | 0.0095   | 87.93     |             |             |
| Alpha Blue Care (Plastic)       | 0.0901     | 0.0119   | 86.79     | 93.46       |             |
|                                 | 0.0782     | 0.0073   | 90.66     |             |             |
|                                 | 0.0479     | 0.0014   | 102.92    |             |             |
| Alpha Blue Care (Painted Steel) | 0.0493     | 0.0088   | 82.15     | 84.30       |             |
|                                 | 0.0362     | 0.0066   | 81.77     |             |             |
|                                 | 0.0454     | 0.0050   | 88.99     |             |             |
| MD Stetson 3R (Ceramic)         | 0.0305     | 0.0118   | 61.31     | 51.98       | 76.85       |
|                                 | 0.0568     | 0.0355   | 37.50     |             |             |
|                                 | 0.0723     | 0.0310   | 57.12     |             |             |

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|                               |        |        |       |       |  |
|-------------------------------|--------|--------|-------|-------|--|
| MD Stetson 3R (Plastic)       | 0.0299 | 0.0050 | 83.28 | 88.79 |  |
|                               | 0.0302 | 0.0027 | 91.06 |       |  |
|                               | 0.0314 | 0.0025 | 92.04 |       |  |
| MD Stetson 3R (Painted Steel) | 0.0535 | 0.0040 | 92.52 | 89.79 |  |
|                               | 0.0306 | 0.0035 | 88.56 |       |  |
|                               | 0.0923 | 0.0108 | 88.30 |       |  |

Summary:

|                       |                          |               |                    |                          |                      |
|-----------------------|--------------------------|---------------|--------------------|--------------------------|----------------------|
| <b>Substrates:</b>    | Ceramics, Plastic, Steel |               |                    |                          |                      |
| <b>Contaminants:</b>  | Hucker's Soil            |               |                    |                          |                      |
| <b>Company Name:</b>  | <b>Product Name:</b>     | <b>Conc.:</b> | <b>Efficiency:</b> | <b>Effective:</b>        | <b>Observations:</b> |
| Next-Gen Supply Group | 3R All Purpose Cleaner   | 2             | 76.85              | <input type="checkbox"/> |                      |

Conclusion:

Alpha Chemical Services Alpha Blue Care was more effective than the non-green comparative product.