

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2007

DateRun: 10/30/2007

Experimenters: Jason Marshall

ClientType: Cleaner Manufacturer

ProjectNumber: Project #1

Substrates: Ceramics, Plastic, Steel, Fiberglass, Chrome

PartType: Coupon

Contaminants: Films, Soaps, Hucker's Soil

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: To evaluate supplied glass cleaner on bathroom and all purpose soils.

Experimental Procedure: The supplied cleaning product was used at full strength.

Prewriteed fiberglass, ceramic and chrome coupons were coated with SSL Soil 1 (Bathroom soap scum: Vaseline Dry Skin Lotion 21.4%, Dial Clean Rinsing Body Wash 14.3%, Market Basket Shampoo & Conditioner (Pert) 28.6%, Soft Soap Natural Liquid hand soap 21.4%, Coast Deodorant bar soap 7.2% and Water 7.1%) 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.

In addition, a set of preweighed fiberglass, ceramic and chrome coupons were coated with a fresh batch of SSL Soil 3 (Hucker's Soil: Distilled water 45.8%, Evaporated milk 13.8%, Creamy peanut butter 9.2%, Salted butter 9.2%, Stone ground wheat flour 9.2%, Egg yolk 9.2%, Printer's ink with boiled linseed oil 0.9% and Saline solution 2.7%.) 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 WypAll X60 reinforced wipe 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 effective at removing the all purpose soil but was not effective on the bathroom soil. The table lists the amount of soil added, the amount remaining, the efficiency for each coupon cleaned and the average removal from each substrate type.

| Cleaner             | Initial wt | Final wt | % Removed |
|---------------------|------------|----------|-----------|
| DFC Glass - st -AP  | 0.2458     | 0.0139   | 94.34     |
|                     | 0.1331     | 0.0270   | 79.71     |
|                     | 0.2675     | 0.0519   | 80.60     |
| DFC Glass - pl - AP | 0.2743     | 0.0251   | 90.85     |
|                     | 0.2477     | 0.0250   | 89.91     |
|                     | 0.2593     | 0.0068   | 97.38     |
| DFC Glass - ce - AP | 0.1857     | 0.0275   | 85.19     |
|                     | 0.2165     | 0.0257   | 88.13     |
|                     | 0.2045     | 0.0598   | 70.76     |
| DFC Glass - ce - BR | 0.1709     | 0.0310   | 81.86     |
|                     | 0.2138     | 0.0694   | 67.54     |
|                     | 0.2137     | 0.0451   | 78.90     |
| DFC Glass - ch - BR | 0.1868     | 0.0474   | 74.63     |
|                     | 0.1949     | 0.0492   | 74.76     |
|                     | 0.2487     | 0.1514   | 39.12     |
| DFC Glass - fg - BR | 0.4074     | 0.1620   | 60.24     |
|                     | 0.3314     | 0.1602   | 51.66     |
|                     | 0.2781     | 0.0891   | 67.96     |

Summary:

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|                                |                                              |               |                    |                                     |                      |
|--------------------------------|----------------------------------------------|---------------|--------------------|-------------------------------------|----------------------|
| <b>Substrates:</b>             | Ceramics, Plastic, Steel, Fiberglass, Chrome |               |                    |                                     |                      |
| <b>Contaminants:</b>           | Films, Soaps, Hucker's Soil                  |               |                    |                                     |                      |
| <b>Company Name:</b>           | <b>Product Name:</b>                         | <b>Conc.:</b> | <b>Efficiency:</b> | <b>Effective:</b>                   | <b>Observations:</b> |
| Cogent Environmental Solutions | DFC Glass                                    | 100           | 86.32              | <input checked="" type="checkbox"/> | All Purpose Soil     |
| Cogent Environmental Solutions | DFC Glass                                    | 100           | 66.30              | <input type="checkbox"/>            | Bathroom Soil        |

Conclusion:

The glass cleaner removed over the 85% cut off point for the all purpose soil. It did not pass for the bathroom soil.