

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2005

DateRun: 09/08/2005

Experimenters: Jason Marshall

ClientType: Cleaner Manufacturer

ProjectNumber: Project #1

Substrates: Ceramics, Fiberglass, Chrome

PartType: Coupon

Contaminants: Films, Soaps

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: To evaluate resubmitted product for bathroom soap scum removal

Experimental Procedure: One supplied cleaning product was diluted to vendor recommended concentrations for bathroom cleaning. The product was diluted with DI water.

Three preweighed fiberglass, three ceramic and three 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.

Three coupons were placed into a Gardner Straight Line Washability unit. A Professional Painter's Rag 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 DFC 5 removed 92% of the contaminant used at the 5 percent concentration. The table below lists the amount of soil applied and removed from the coupons.

| Substrate  | Initial wt | Final wt | % Removed |
|------------|------------|----------|-----------|
| Ceramic    | 0.0877     | 0.0064   | 92.70     |
|            | 0.0878     | 0.0040   | 95.44     |
|            | 0.0945     | 0.0089   | 90.58     |
| Fiberglass | 0.1839     | 0.0062   | 96.63     |
|            | 0.1208     | 0.0045   | 96.27     |
|            | 0.0759     | 0.0044   | 94.20     |
| Chrome     | 0.0640     | 0.0040   | 93.75     |
|            | 0.0698     | 0.0071   | 89.83     |
|            | 0.0914     | 0.0169   | 81.51     |

|          |                                |                              |               |                    |                                     |                      |
|----------|--------------------------------|------------------------------|---------------|--------------------|-------------------------------------|----------------------|
| Summary: | <b>Substrates:</b>             | Ceramics, Fiberglass, Chrome |               |                    |                                     |                      |
|          | <b>Contaminants:</b>           | Films, Soaps                 |               |                    |                                     |                      |
|          | <b>Company Name:</b>           | <b>Product Name:</b>         | <b>Conc.:</b> | <b>Efficiency:</b> | <b>Effective:</b>                   | <b>Observations:</b> |
|          | Cogent Environmental Solutions | DFC 5                        | 5             | 92.32              | <input checked="" type="checkbox"/> |                      |

Conclusion: The DFC was successful in removing over 85% of the bathroom soil from various substrates.