

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2008

DateRun: 07/11/2008

Experimenters: Jason Marshall, Shweta Bansal

ClientType: Cleaner Manufacturer

ProjectNumber: Project #1

Substrates: Ceramics, Plastic, Fiberglass, Chrome

PartType: Coupon

Contaminants: Films, Soaps

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: To evaluate three supplied products for bathroom cleaning following GS 37 requirements

Experimental Procedure: Two of the three supplied cleaning product were diluted to vendor recommended concentrations for bathroom cleaning using DI water (32:1 and 128:1%). The third product was prepared following the specified procedure - oxygenating cold tap water for about 10 minutes.

Preweighed fiberglass, ceramic, chrome and composite floor tiles 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 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 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: All three products were successful in removing the bathroom soil from the four substrates. Overall efficiencies were above 90%. The table lists the amount of soil added, the amount remaining after cleaning and the calculated efficiency for each coupon cleaned.

| Substrate  | Cleaner  | Initial wt | Final wt | % Removed |
|------------|----------|------------|----------|-----------|
| ceramic    | Lotus    | 0.3671     | 0.1062   | 71.07     |
|            |          | 0.2130     | 0.0394   | 81.50     |
|            |          | 0.2677     | 0.0200   | 92.53     |
| ceramic    | Pleasant | 0.2195     | 0.0100   | 95.44     |
|            |          | 0.1925     | 0.0017   | 99.12     |
|            |          | 0.2007     | 0.0006   | 99.70     |
| ceramic    | Compass  | 0.0947     | 0.0062   | 93.45     |
|            |          | 0.2045     | 0.0187   | 90.86     |
|            |          | 0.1395     | 0.0064   | 95.41     |
| chrome     | Lotus    | 0.1733     | 0.0066   | 96.19     |
|            |          | 0.1910     | 0.0050   | 97.38     |
|            |          | 0.1328     | 0.0055   | 95.86     |
| chrome     | Pleasant | 0.2044     | 0.0295   | 85.57     |
|            |          | 0.2579     | 0.0465   | 81.97     |
|            |          | 0.3367     | 0.1314   | 60.97     |
| chrome     | Compass  | 0.2222     | 0.0096   | 95.68     |
|            |          | 0.1072     | 0.0127   | 88.15     |
|            |          | 0.2188     | 0.0071   | 96.76     |
| fiberglass | Lotus    | 0.2320     | 0.0187   | 91.94     |
|            |          | 0.1619     | 0.0009   | 99.44     |
|            |          | 0.2008     | 0.0071   | 96.46     |
| fiberglass | Pleasant | 0.1435     | 0.0139   | 90.31     |
|            |          | 0.3196     | 0.0075   | 97.65     |
|            |          | 0.2581     | 0.0280   | 89.15     |
| fiberglass | Compass  | 0.2619     | 0.0012   | 99.54     |

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|                  |          |        |        |       |
|------------------|----------|--------|--------|-------|
|                  |          | 0.2055 | 0.0028 | 98.64 |
|                  |          | 0.2147 | 0.0186 | 91.34 |
| composit<br>tile | Lotus    | 0.1480 | 0.0014 | 99.05 |
|                  |          | 0.1094 | 0.0094 | 91.41 |
|                  |          | 0.0829 | 0.0042 | 94.93 |
| composit<br>tile | Pleasant | 0.0856 | 0.0005 | 99.42 |
|                  |          | 0.1355 | 0.0123 | 90.92 |
|                  |          | 0.2460 | 0.0248 | 89.92 |
| composit<br>tile | Compass  | 0.1578 | 0.0116 | 92.65 |
|                  |          | 0.1556 | 0.0157 | 89.91 |
|                  |          | 0.1232 | 0.0110 | 91.07 |

Summary:

|                      |                                       |               |                    |                                     |                      |
|----------------------|---------------------------------------|---------------|--------------------|-------------------------------------|----------------------|
| <b>Substrates:</b>   | Ceramics, Plastic, 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> |
| Tersano              | Lotus Sanitizing System               | 100           | 92.31              | <input checked="" type="checkbox"/> |                      |
| Triple S             | Pleasant Neutra Shine                 | 3.12          | 90.01              | <input checked="" type="checkbox"/> |                      |
| Triple S             | Compass                               | 0.78          | 93.62              | <input checked="" type="checkbox"/> |                      |

Conclusion:

The Lotus Sanitizing System was found to be effective for removing the bathroom soil from various surfaces using manual wiping. It compared well to the two other cleaning products supplied for testing.