

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2010

DateRun: 08/11/2010

Experimenters: Jason Marshall, Timothy Weil

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 the supplied products for bathroom cleaning using manual cleaning

Experimental Procedure: The supplied cleaning products were used at the recommended concentration. Prewedged chrome, ceramic, fiberglass and porcelain, coupons were coated with SSL Soil 1 (Bathroom soap scum: All-in-one shampoo and conditioner 28.6%, Dry skin lotion 21.4%, Liquid hand soap 21.4%, Liquid body wash 14.3%, 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 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 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 once with a dry paper towel. Final weights were recorded, and efficiencies were calculated and recorded.

Results: The supplied cleaner was found to leave a lot of residue behind when following the traditional laboratory testing procedures. When incorporating an added wet wipe following cleaning, efficiency improved. The table lists the amount of soil added, the amount remaining and efficiency for each coupon cleaned. Observations of residue levels were recorded as well.

| Cleaner                     | Initial wt | Final wt | % Removed |
|-----------------------------|------------|----------|-----------|
| Soft Scrub - ceramic        |            |          |           |
|                             | 0.1470     | 0.2653   | -80.48    |
|                             | 0.1319     | 0.2980   | -125.93   |
|                             | 0.0904     | 0.1948   | -115.49   |
| Soft Scrub - chrome         |            |          |           |
|                             | 0.0981     | 0.1303   | -32.82    |
|                             | 0.1159     | 0.1420   | -22.52    |
|                             | 0.1411     | 0.2073   | -46.92    |
| Soft Scrub - fiberglass     |            |          |           |
|                             | 0.1716     | 0.3055   | -78.03    |
|                             | 0.1745     | 0.3415   | -95.70    |
|                             | 0.1412     | 0.4011   | -184.07   |
| Soft Scrub - porcelain      |            |          |           |
|                             | 0.0874     | 1.0597   | -1112.47  |
|                             | 0.1384     | 1.2257   | -785.62   |
|                             | 0.1844     | 0.7915   | -329.23   |
| New Leaf Bathroom - ceramic |            |          |           |
|                             | 0.1179     | 0.7002   | -493.89   |
|                             | 0.2013     | 1.5344   | -662.25   |
|                             | 0.1711     | 0.9910   | -479.19   |
| New Leaf Bathroom - chrome  |            |          |           |
|                             | 0.1883     | 1.3036   | -592.30   |
|                             | 0.1977     | 1.9480   | -885.33   |

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|  |        |        |         |
|--|--------|--------|---------|
|  | 0.2728 | 1.1985 | -339.33 |
| New Leaf Bathroom<br>- fiberglass      |        |        |         |
|  | 0.1474 | 0.0175 | 88.13   |
|  | 0.2362 | 0.0209 | 91.15   |
|  | 0.1324 | 0.0199 | 84.97   |
| New Leaf Bathroom<br>- porcelain       |        |        |         |
|  | 0.1217 | 0.0076 | 93.76   |
|  | 0.1757 | 0.0056 | 96.81   |
|  | 0.1613 | 0.0045 | 97.21   |
| Activeion - ceramic                    |        |        |         |
|  | 0.2253 | 0.0133 | 94.10   |
|  | 0.1825 | 0.0110 | 93.97   |
|  | 0.2541 | 0.0157 | 93.82   |
| Activeion - chrome                     |        |        |         |
|  | 0.2299 | 0.0657 | 71.42   |
|  | 0.2278 | 0.0488 | 78.58   |
|  | 0.2019 | 0.0426 | 78.90   |
| Activeion -<br>fiberglass              |        |        |         |
|  | 0.1299 | 0.0261 | 79.91   |
|  | 0.0986 | 0.0112 | 88.64   |
|  | 0.1756 | 0.0100 | 94.31   |
| Activeion - porcelain                  |        |        |         |
|  | 0.2844 | 0.0380 | 86.64   |
|  | 0.2958 | 0.0347 | 88.27   |
|  | 0.1647 | 0.0344 | 79.11   |
| Comet Bathroom<br>Cleaner - ceramic    |        |        |         |
|  | 0.2001 | 0.1453 | 27.39   |
|  | 0.1275 | 0.0500 | 60.78   |
|  | 0.1177 | 0.1684 | -43.08  |
| Comet Bathroom<br>Cleaner - chrome     |        |        |         |
|  | 0.1298 | 1.0195 | -685.44 |
|  | 0.1306 | 1.2009 | -819.53 |
|  | 0.1508 | 0.7020 | -365.52 |
| Comet Bathroom<br>Cleaner - fiberglass |        |        |         |
|  | 0.1203 | 0.0074 | 93.85   |
|  | 0.1077 | 0.0073 | 93.22   |
|  | 0.1249 | 0.0048 | 96.16   |
| Comet Bathroom<br>Cleaner - porcelain  |        |        |         |
|  | 0.1267 | 0.0193 | 84.77   |
|  | 0.0841 | 0.0164 | 80.50   |
|  | 0.0729 | 0.0150 | 79.42   |

Summary:

| <b>Substrates:</b>               | Ceramics, Fiberglass, Chrome |        |             |                                     |               |
|----------------------------------|------------------------------|--------|-------------|-------------------------------------|---------------|
| <b>Contaminants:</b>             | Films, Soaps                 |        |             |                                     |               |
| Company Name:                    | Product Name:                | Conc.: | Efficiency: | Effective:                          | Observations: |
| Henkel Corporation               | Soft Scrub with Bleach       | 100    | 72.90       | <input type="checkbox"/>            | with wipe     |
| Activeion Cleaning Solutions LLC | Activeion Pro                | 100    | 93.10       | <input checked="" type="checkbox"/> |               |
| Prestige Brands Inc              | Comet Bathroom Cleaner       | 100    | 82.54       | <input type="checkbox"/>            |               |
| New Leaf Clean LLC               | New Leaf All Purpose Cleaner | 100    | 68.90       | <input type="checkbox"/>            |               |

Conclusion:

The supplied product had an overall average efficiency less than 85% but compared consistently with the thicker conventional cleaning product.

## **CLEANING LABORATORY EVALUATION SUMMARY**