

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2012

DateRun: 04/06/2012

Experimenters: Jason Marshall, Johnny Le, Loc Nguyen

ClientType: Cleaner Manufacturer

ProjectNumber: Project #1

Substrates: Ceramics, Plastic, 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 (4.7Non-acid, 6.25% mild acid). Prewieghed chrome, ceramic and fiberglass, 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 two supplied products both removed more than 85% of the bathroom soap scum soil from the surfaces using manual cleaning. The conventional products removed over 90%. The table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

| Cleaner | Initial wt | Final wt | % Removed |
|---------------------------------|------------|----------|-----------|
| Horizon Gleam - ceramic | | | |
| | 1.4889 | 0.0016 | 99.89 |
| | 1.0328 | 0.0011 | 99.89 |
| | 0.0404 | 0.0057 | 85.89 |
| Horizon Gleam - polycarbonate | | | |
| | 0.0202 | 0.0012 | 94.06 |
| | 0.0168 | 0.0009 | 94.64 |
| | 0.0260 | 0.0007 | 97.31 |
| Horizon Gleam - chrome | | | |
| | 0.0199 | 0.0002 | 98.99 |
| | 0.0225 | 0.0015 | 93.33 |
| | 0.0176 | 0.0008 | 95.45 |
| Horizon Premier - ceramic | | | |
| | 1.2827 | 0.0026 | 99.80 |
| | 0.0695 | 0.0101 | 85.47 |
| | 0.6038 | 0.2032 | 66.35 |
| Horizon Premier - polycarbonate | | | |
| | 0.0234 | 0.0001 | 99.57 |
| | 0.0298 | 0.0017 | 94.30 |
| | 0.0174 | 0.0001 | 99.43 |
| Horizon Premier - chrome | | | |
| | 0.0406 | 0.0020 | 95.07 |

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|------------------------|--------|---------|--------|
| | 0.0164 | 0.0022 | 86.59 |
| | 0.0212 | 0.0046 | 78.30 |
| PC 115 - ceramic | | | |
| | 0.0423 | 0.0054 | 87.23 |
| | 0.0498 | 0.0013 | 97.39 |
| | 0.0323 | 0.0034 | 89.47 |
| PC 115 - polycarbonate | | | |
| | 0.0482 | -0.0006 | 101.24 |
| | 0.0322 | 0.0003 | 99.07 |
| | 0.0302 | 0.0014 | 95.36 |
| PC 115 - chrome | | | |
| | 0.0416 | 0.0017 | 95.91 |
| | 0.0309 | 0.0014 | 95.47 |
| | 0.0171 | 0.0031 | 81.87 |
| 3M 19 - ceramic | | | |
| | 0.0271 | 0.0008 | 97.05 |
| | 0.0422 | 0.0003 | 99.29 |
| | 0.1162 | 0.0027 | 97.68 |
| 3M 19 - polycarbonate | | | |
| | 0.0220 | 0.0004 | 98.18 |
| | 0.0187 | 0.0017 | 90.91 |
| | 0.0219 | 0.0003 | 98.63 |
| 3M 19 - chrome | | | |
| | 0.0424 | 0.0026 | 93.87 |
| | 0.0194 | 0.0030 | 84.54 |
| | 0.0195 | 0.0007 | 96.41 |

Summary:

| Substrates: | Ceramics, Plastic, Chrome | | | | |
|-----------------------|---|--------|-------------|-------------------------------------|---------------|
| Contaminants: | Films, Soaps | | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| 3M | Non-acid bathroom cleaner No 19 | 100 | 95.17 | <input checked="" type="checkbox"/> | Non acid |
| Next-Gen Supply Group | PC 115 Mild Acid Disinfectant Restroom & Shower Cleaner | 2.3 | 93.67 | <input checked="" type="checkbox"/> | acid cleaner |
| U.N.X. Incorporated | Horizon Gleam | 4.7 | 95.50 | <input checked="" type="checkbox"/> | non acid |
| U.N.X. Incorporated | Horizon Premier | 6.25 | 89.43 | <input checked="" type="checkbox"/> | acid cleaner |

Conclusion:

The two products had an overall average efficiency greater than 85% and performed as well as the conventional cleaning products in their representative class.