

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2006
 DateRun: 03/30/2006
 Experimenters: Jason Marshall
 ClientType: Cleaner Manufacturer
 ProjectNumber: Project #1
 Substrates: Ceramics, Fiberglass, Chrome
 PartType: Coupon
 Contaminants: Soaps
 Cleaning Methods: Manual Wipe
 Analytical Methods: Gravimetric
 Purpose: To reevaluate supplied product at higher concentration for bathroom cleaning.

Experimental Procedure: The supplied cleaning product was diluted to the vendor's new recommended concentrations for bathroom cleaning using DI water (3.125%). Three preweighed 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.

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 product was effective on two of three substrates. The fiberglass cleaning was just under the 85% cut off. However, the overall performance was considered acceptable removing just under 90%. The table below list the amount of soil added, the amount reaming and the efficiency for each substrate.

| Cleaner | Initial wt | Final wt | % Removed |
|------------|------------|----------|-----------|
| Ceramic | 0.3716 | 0.0109 | 97.07 |
| | 0.5033 | 0.0186 | 96.30 |
| | 0.4951 | 0.0387 | 92.18 |
| Fiberglass | 0.4254 | 0.0738 | 82.65 |
| | 0.5608 | 0.1127 | 79.90 |
| | 0.5124 | 0.0553 | 89.21 |
| Chrome | 0.3293 | 0.0193 | 94.14 |
| | 0.2221 | 0.0277 | 87.53 |
| | 0.4056 | 0.0428 | 89.45 |

Summary:

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|----------------------|---|------------------------------|--------------------|-------------------------------------|----------------------|
| Substrates: | | Ceramics, Fiberglass, Chrome | | | |
| Contaminants: | | Soaps | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| Perma Inc | Easy Mix Foaming Restroom Cleaner #1040 | 3.125 | 89.83 | <input checked="" type="checkbox"/> | |

Conclusion: The Perma Easy Mix Foaming Restroom Cleaner 1040 overall cleaning average was over the 85% cut off when used at the higher concentration.