

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2004
 DateRun: 04/14/2004
 Experimenters: Jason Marshall, Heidi Wilcox
 ClientType: Cleaner Manufacturer
 ProjectNumber: Project #1
 Substrates: Ceramics
 PartType: Coupon
 Contaminants: Films, Soaps
 Cleaning Methods: Manual Wipe
 Analytical Methods: Gravimetric, Photography
 Purpose: To evaluate newly supplied cleaner on SSL Soil 1

Experimental Procedure: Two supplied cleaning product were diluted to vendor recommended concentration for bathroom cleaning (2oz/gal). The product was diluted with DI water. Six preweighed ceramic 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. Photographs were taken.

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 and a second set of photographs were taken. Efficiencies were calculated and recorded.

Results: The Bi-O-Kleen product removed 10% more soil from the coupons than the Clean Environment product did. The table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

| Cleaner | Initial wt | Final wt | % Removed |
|-------------------|------------|----------|-----------|
| Bi-O-Kleen AP | 0.1219 | 0.008 | 93.44 |
| | 0.2133 | 0.0361 | 83.08 |
| | 0.1892 | 0.0349 | 81.55 |
| Clean Env AP N-13 | 0.1585 | 0.0315 | 80.13 |
| | 0.1635 | 0.0432 | 73.58 |
| | 0.1994 | 0.0461 | 76.88 |

Summary:

| | | | | | |
|--------------------------|--------------------------------|---------------|--------------------|-------------------------------------|----------------------|
| Substrates: | Ceramics | | | | |
| Contaminants: | Films, Soaps | | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| Bi-O-Kleen Industries | Bi-O-Kleen Cleaner & Degreaser | 2 | 86.02 | <input checked="" type="checkbox"/> | |
| The Clean Environment Co | All Purpose N-1 | 2 | 76.86 | <input type="checkbox"/> | |

Conclusion: A third product will be tested under the same conditions when it arrives at the laboratory.