

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2021
 DateRun: 05/27/2021
 Experimenters: Ross Goding, Edward Judge
 ClientType: Lab
 ProjectNumber: Project #4
 Substrates: Ceramics, Plastic, Chrome
 PartType: Coupon
 Contaminants: Soaps
 Cleaning Methods: Manual Wipe
 Analytical Methods: Gravimetric, Visual
 Purpose: To test the effectiveness of Windex Multi-Surface cleaner in the removal of Bathroom Soil from various substrates

Experimental Procedure: Windex Multi-Surface cleaning solution was gathered to begin testing. Then, 3 coupons of each substrate (ceramic, chrome, plastic) were collected and initial weights were taken. Bathroom Soil was applied to each coupon and allowed to air dry for 24 hours. After the 24 hour dry time, the weights of the newly contaminated coupons were measured. All coupons were placed into a Gardner-scrub Abrasion Tester machine. Wypall cleaning cloths were attached to each of the 3 cleaning blocks used for the test. Each Wypall cloth and all coupons received 2 sprays of the Windex Multi-Surface solution and the Gardner-scrub Abrasion Tester was run for 20 repetitions, simulating 20 manual wipes. Once cleaning concluded, the cleaned coupons were allowed to air dry for 24 hours. After 24 hours, the weights of the cleaned coupons were measured.

Results:

| Cleaner | Substrate | Initial wt of cont. | Final wt of cont. | %Cont Removed | % AVG | % Overall |
|----------------------|-----------|---------------------|-------------------|---------------|-------|-----------|
| Windex Multi-Surface | Ceramic | 0.0907 | 0.0065 | 92.83 | 89.63 | 82.87 |
| | | 0.0829 | 0.0046 | 94.45 | | |
| | | 0.0972 | 0.0227 | 76.65 | | |
| | Chrome | 0.1217 | 0.0066 | 94.58 | 82.51 | |
| | | 0.1130 | 0.0099 | 91.24 | | |
| | | 0.1079 | 0.0413 | 61.72 | | |
| | Plastic | 0.0695 | 0.0032 | 95.40 | 76.46 | |
| | | 0.1303 | 0.0517 | 60.32 | | |
| | | 0.1313 | 0.0346 | 73.65 | | |

Summary:

| Substrates: | | Ceramics, Plastic, Chrome | | | |
|----------------------|-------------------------------------|---------------------------|-------------|-------------------------------------|---|
| Contaminants: | | Soaps | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| SC Johnson & Son Inc | Windex Glass & More Cleaner (Spray) | 100% | 82.87 | <input checked="" type="checkbox"/> | Windex Multi-Surface Cleaner was effective in the removal of Bathroom Soil from various substrates. |

Conclusion: Windex Multi-Surface cleaning solution was analyzed to determine its effectiveness in removing bathroom soil from ceramic, chrome, and plastic substrates. The test results show that Windex Multi-Surface cleaner was 89.63% effective in removing bathroom soil from ceramic substrates, 82.51% effective in the removal of bathroom soil from chrome substrates, and 76.46% effective in removing bathroom soil from plastic substrates. Overall, Windex Multi-Surface cleaner was 82.87% effective in removing bathroom soil from all substrates that were tested.