

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2024
DateRun: 10/07/2024
Experimenters: Amelia Wagner
ClientType: Cleaner Manufacturer
ProjectNumber: Project #2
Substrates: Glass/Quartz, Chrome
PartType: Coupon
Contaminants: SSL Soil 2 Glass Soap Scum
Cleaning Methods: Manual Wipe
Analytical Methods: Gravimetric
Purpose: To test the efficacy of the client's glass cleaning product against comparative glass cleaning market products.

Experimental Procedure: Three coupons for each substrate for each cleaner were weighed for initial weights. About 0.15-0.2 g of Glass soil that was made previously was put onto the coupons and was left to dry overnight (24-hour dry time). The following day, dirty weights were taken and recorded. Three coupons of the same substrate were placed in the SLW Machine; there were w per Wypall (one Wypall per substrate, per cleaner) amounting to about 2.5 ml of each cleaning chemistry per coupon. The SLW Machine was run for 20 cycles (30 seconds of cleaning). The coupons were taken out and left to dry for another 24 hours. After the 24 hours, they were weighed again for final weights.

Results:

| Cleaner | Coupon Type | Initial wt of cont. | Final wt of cont. | %Cont Removed | % AVG | % Overall |
|----------------------------------|-------------|---------------------|-------------------|---------------|-------|-----------|
| Seventh Generation Glass Cleaner | Mirror | 0.0340 | 0.0004 | 98.82 | 99.24 | 97.23 |
| | | 0.0367 | 0.0004 | 98.91 | | |
| | | 0.0163 | 0.0000 | 100.00 | | |
| | Glass | 0.0303 | 0.0013 | 95.71 | 95.43 | |
| | | 0.0416 | 0.0006 | 98.56 | | |
| | | 0.0238 | 0.0019 | 92.02 | | |
| | Chrome | 0.0260 | 0.0002 | 99.23 | 97.03 | |
| | | 0.0204 | 0.0008 | 96.08 | | |
| | | 0.0213 | 0.0009 | 95.77 | | |
| Invisible Glass | Mirror | 0.0372 | 0.0005 | 98.66 | 99.06 | 96.35 |
| | | 0.0199 | 0.0001 | 99.50 | | |
| | | 0.0305 | 0.0003 | 99.02 | | |
| | Glass | 0.0463 | 0.0011 | 97.62 | 93.71 | |
| | | 0.0244 | 0.0016 | 93.44 | | |
| | | 0.0191 | 0.0019 | 90.05 | | |
| | Chrome | 0.0215 | 0.0014 | 93.49 | 96.28 | |
| | | 0.0175 | 0.0004 | 97.71 | | |
| | | 0.0295 | 0.0007 | 97.63 | | |
| Windex | Mirror | 0.0360 | 0.0004 | 98.89 | 97.87 | 78.18 |
| | | 0.0457 | 0.0013 | 97.16 | | |
| | | 0.0411 | 0.0010 | 97.57 | | |
| | Glass | 0.0365 | 0.0026 | 92.88 | 91.25 | |
| | | 0.0250 | 0.0035 | 86.00 | | |
| | | 0.0313 | 0.0016 | 94.89 | | |
| | Chrome | 0.0418 | 0.0077 | 81.58 | 45.42 | |
| | | 0.0179 | 0.0160 | 10.61 | | |
| | | 0.0286 | 0.0160 | 44.06 | | |
| GMA Glass Cleaner | Mirror | 0.0415 | 0.0080 | 80.72 | 82.53 | 85.08 |
| | | 0.0345 | 0.0049 | 85.80 | | |
| | | 0.0333 | 0.0063 | 81.08 | | |
| | Glass | 0.0270 | 0.0017 | 93.70 | 94.98 | |
| | | 0.0563 | 0.0015 | 97.34 | | |

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|--------|--------|--------|-------|-------|
| | 0.0311 | 0.0019 | 93.89 | |
| Chrome | 0.0385 | 0.0141 | 63.38 | 77.72 |
| | 0.0164 | 0.0039 | 76.22 | |
| | 0.0295 | 0.0019 | 93.56 | |

Summary:

| | | | | | |
|--------------------------|------------------------------------|---------------|--------------------|-------------------------------------|----------------------|
| Substrates: | Glass/Quartz, Chrome | | | | |
| Contaminants: | SSL Soil 2 Glass Soap Scum | | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| Green Mountain Amenities | GMA White Vinegar Glass Cleaner | RTU | 85.05 | <input checked="" type="checkbox"/> | |
| Seventh Generation | Glass Cleaner | RTU | 97.23 | <input checked="" type="checkbox"/> | |
| SC Johnson & Son Inc | Windex Glass Original w/ Ammonia-D | RTU | 78.18 | <input checked="" type="checkbox"/> | |
| Stoner Car Care | Invisible Glass | RTU | 96.35 | <input checked="" type="checkbox"/> | |

Conclusion:

Both the Seventh Generation Glass Cleaner and the Invisible Glass showed high efficacy across all substrates. The Windex was highly successful in removing the glass soil from mirror and glass, but struggled significantly in removing the glass soil from chrome. While the Green Mountain Amenities Glass cleaner showed to be effective in removing the glass soil from mirror and glass, it did not match the performance of the other three cleaners in removing the soil from mirror. It was able to match the performance of the other three cleaners in removing the soil from glass. The Green Mountain Amenities Glass Cleaner also struggled to remove the glass soil from chrome as the Windex did, however it was able to perform better than the Windex in this scenario.