# CLEANING LABORATORY EVALUATION SUMMARY

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|---|---|
| SCL #: | 2022 |
| DateRun: | 06/30/2022 |
| Experimenters: | Zoe Lawson, Tatyanna Moreland Junior, Alexander Symko |
| ClientType: | |
| ProjectNumber: | Project #5 |
| Substrates: | Glass/Quartz, Chrome |
| PartType: | Coupon |
| Contaminants: | SSL Soil 2 Glass Soap Scum |
| Cleaning Methods: | Manual Wipe |
| Analytical Methods: | Gravimetric, Visual |
| Purpose: | To test the efficiency of Podsy 2.45g glass cleaning pods. |

Experimental Procedure:

12 pre-weighed glass and chrome coupons were soiled with SSL Soil 2 glass soap scum using a handheld swab. The glass soap scum is a blend of water 51.5%, hair gel 25.6%, Toothpaste 10.4%, shaving cream 5.3%, hair spray 3.7% and spray deodorant 3.5%. The first cleaning solution was made by using the 2.45g packets provided by the vendor and diluting it with 16oz of water. The second cleaning solution used was a prepared comparative product (in this case Windex).

The coupons were allowed to dry for 24 hours at room temperature before re-weighing for the amount of contaminant added onto the coupons. For each cleaning agent, three of the same type of coupons were placed into a Gardner Straight Line Washability unit. A Wypall X60 reinforced wipe was attached to the cleaning sled and soaked with three spray of cleaning solutions. Each coupon was sprayed thrice with the same cleaning solution. The solution was allowed to penetrate for 30 seconds followed by cleaning in the SLW unit for 20 cycles. The coupons were left to sit at room temperature overnight and were re-weighed again to obtain the amount of contaminant removed.

A visual ranking was then performed in order to evaluate the visual efficacy of the cleaning agents. The visual ranking of the cleaned coupons was in accordance to the following ratings: Filming is best recognized as "haziness" or overall "milkiness", while streaking is best identified as dried droplets or "spotting", usually found strung together into thin white lines. Each coupon was evaluated separately for filming and streaking, (i.e., product residues without added soil), according to a scale of "1" to"7" where:

Filming Streaking
7 = high filming 7 = high streaking poor (performance)
1 = no visible filming 1 = no visible streaking (excellent performance)

Results:

Cleaning Efficiency Results:

| Product | Substrate | Initial wt of cont. | Final wt of cont. | %Cont Removed | Average | Overall Average |
|---|---|---|---|---|---|---|
| Podsy Glass Cleaner | Glass | 0.0366 | 0.0001 | 99.73 | 97.69 | 98.65 |
| | | 0.0246 | 0.0003 | 98.78 | | |
| | | 0.0295 | 0.0016 | 94.58 | | |
| | Chrome | 0.0510 | 0.0006 | 98.82 | 99.61 | |
| | | 0.0460 | 0.0000 | 100.00 | | |
| | | 0.0329 | 0.0000 | 100.00 | | |
| Windex Glass Cleaner | Glass | 0.1019 | 0.0015 | 98.53 | 97.82 | 96.76 |
| | | 0.0632 | 0.0029 | 95.41 | | |
| | | 0.1032 | 0.0005 | 99.52 | | |
| | Chrome | 0.0347 | 0.0027 | 92.22 | 95.69 | |
| | | 0.0440 | 0.0002 | 99.55 | | |
| | | 0.0491 | 0.0023 | 95.32 | | |

Average Film Ratings:

| Product | Substrate | Film Rating | Average |
|---|---|---|---|
| Podsy Glass Cleaner | Glass | 2.0 | 2.67 |
| | | 2.0 | |
| | | 4.0 | |
| | Chrome | 1.0 | 1.00 |
| | | 1.0 | |

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| | | | |
|---|---|---|---|
| | | 1.0 | |
| Windex Glass Cleaner | Glass | 2.0 | 2.00 |
| | | 3.0 | |
| | | 1.0 | |
| | Chrome | 1.0 | 2.33 |
| | | 3.0 | |
| | | 3.0 | |

Average Streaking Ratings:

| Product | Substrate | Streak Rating | Average |
|---|---|---|---|
| Podsy Glass Cleaner | Glass | 3.0 | 2.67 |
| | | 3.0 | |
| | | 2.0 | |
| | Chrome | 2.0 | 1.67 |
| | | 2.0 | |
| | | 1.0 | |
| Windex Glass Cleaner | Glass | 5.0 | 3.33 |
| | | 3.0 | |
| | | 2.0 | |
| | Chrome | 1.0 | 1.67 |
| | | 2.0 | |
| | | 2.0 | |

Summary:

| **Substrates:** | Glass/Quartz, Chrome | | | | |
|---|---|---|---|---|---|
| **Contaminants:** | SSL Soil 2 Glass Soap Scum | | | | |
| **Company Name:** | **Product Name:** | **Conc.:** | **Efficiency:** | **Effective:** | **Observations:** |
| Big 3 Packaging | Podsy Bathroom Cleaning System | 2.45g: 16oz | 98.65 | ☑ | |
| SC Johnson & Son Inc | Windex Glass & More Cleaner (Spray) | RTU | 96.76 | ☑ | |

Conclusion:

The 2.45g Pod was slightly more effective than Windex at removing glass soil from chrome and glass substrates. The Podsy Glass Cleaner had an overall average of 98.65% for removing the contaminant while Windex Glass Cleaner had an overall average of 96.76%. Both cleaners tested had low filming and streaking ratings overall. In regard to filming, the Podsy Glass Cleaner performed well on chrome and had a slightly more favorable rating than Windex on glass film. In regard to streaking, the Podsy Glass Cleaner was on par with the comparative product on chrome (both low ratings) and had a slightly more favorable rating for glass.