

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2019  
 DateRun: 10/01/2019  
 Experimenters: Ross Goding  
 ClientType: Cleaning Equipment Mfr  
 ProjectNumber: Project #1  
 Substrates: Ceramics, Plastic, Chrome  
 PartType: Coupon  
 Contaminants: Hucker's Soil  
 Cleaning Methods: Manual Wipe  
 Analytical Methods: Gravimetric  
 Purpose: To evaluate the effectiveness of Shine Toilet Bowl Cleaner and comparative product for removing Hucker's Soil on Plastic, Ceramic, and Chrome coupons.

Experimental Procedure: Nine pre-weighed coupons, three of each substrate per cleaner, were soiled with Hucker's Soil (Evaporated milk 26.5%, Creamy Peanut Butter 17%, Salted Butter 17%, Stone ground wheat flour 17%, Linseed oil 2.25%, Saline solution 5.25%, India Ink 6.8%, Lemon Juice 8.2%) and aged for 24 hours at room temperature (68°F). Dirty weights recorded before placing three coupons of the same substrate onto the Straight Line Washability (SLW) unit. The cleaner wipe was attached to the SLW sled and cleaned for 20 cycles (equivalent of 30 seconds of manual cleaning). Coupons air dried at room temperature (68 F) overnight before final weights were recorded.

Results: Plastic coupon number 51 and Ceramic coupon numbers 25 and 55 were not soiled with exactly 0.5 grams of Huckers soil which is why the averages are lower than normal compared to all other averages. Comparatively, Force of Natures cleaner removed more soil from the substrate than that of Shine Bathroom cleaner even if the proper amount of soil was given to Plastic coupon number 51 and Ceramic coupon numbers 25 and 55.

| Cleaner | Substrate | Coupon # | Initial wt. | Final wt. | % Removal | Average | Overall Removal |
|---------|-----------|----------|-------------|-----------|-----------|---------|-----------------|
| 1       | Plastic   | 60       | 0.0853      | 0.0073    | 91.44     | 73.64   | 67.86           |
|         |           | 23       | 0.1088      | 0.0066    | 93.93     |         |                 |
|         |           | 51       | 0.0892      | 0.0575    | 35.54     |         |                 |
|         | Ceramic   | 25       | 0.3398      | 0.2467    | 27.40     | 48.62   |                 |
|         |           | 55       | 0.3776      | 0.2358    | 37.55     |         |                 |
|         |           | 79       | 0.3101      | 0.0592    | 80.91     |         |                 |
|         | Chrome    | 5        | 0.3423      | 0.0765    | 77.65     | 81.31   |                 |
|         |           | 19       | 0.3372      | 0.0648    | 80.78     |         |                 |
|         |           | 8        | 0.3409      | 0.0494    | 85.51     |         |                 |
| 2       | Plastic   | 9        | 0.0712      | 0.0002    | 99.72     | 92.55   | 90.20           |
|         |           | 4        | 0.0203      | 0.0012    | 94.09     |         |                 |
|         |           | 17       | 0.013       | 0.0021    | 83.85     |         |                 |
|         | Ceramic   | 73       | 0.0265      | 0.0045    | 83.02     | 87.19   |                 |
|         |           | 71       | 0.0444      | 0.0023    | 94.82     |         |                 |
|         |           | 115      | 0.0332      | 0.0054    | 83.73     |         |                 |
|         | Chrome    | 28       | 0.0837      | 0.0066    | 92.11     | 90.87   |                 |
|         |           | 50       | 0.051       | 0.0047    | 90.78     |         |                 |
|         |           | 10       | 0.0603      | 0.0062    | 89.72     |         |                 |

Summary:

|                                |                           |               |                    |                                     |                      |  |
|--------------------------------|---------------------------|---------------|--------------------|-------------------------------------|----------------------|--|
| <b>Substrates:</b>             | Ceramics, Plastic, Chrome |               |                    |                                     |                      |  |
| <b>Contaminants:</b>           | Hucker's Soil             |               |                    |                                     |                      |  |
| <b>Company Name:</b>           | <b>Product Name:</b>      | <b>Conc.:</b> | <b>Efficiency:</b> | <b>Effective:</b>                   | <b>Observations:</b> |  |
| Shine Bathroom                 | Shine Bathroom system     | 100           | 67.86              | <input type="checkbox"/>            |                      |  |
| Healthier Cleaning Innovations | Force of Nature           | 100           | 90.20              | <input checked="" type="checkbox"/> |                      |  |

Conclusion: Force of Nature Cleaner was more effective at removing Huckers soil from Plastic, Ceramic, and Chrome than Shine Toilet Bowl Cleaner.