

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2021  
 DateRun: 11/17/2021  
 Experimenters: Nicole Kebler, Tatyanna Moreland Junior  
 ClientType: Lab  
 ProjectNumber: Project #5  
 Substrates: Ceramics, Plastic, Painted metal  
 PartType: Coupon  
 Contaminants: Huckers Soil  
 Cleaning Methods:  
 Analytical Methods: Gravimetric, Visual  
 Purpose: To evaluate the effectiveness for the removal of Huckers soil from ceramic, painted metal, and plastic using Earth Essentials cleaner.

Experimental Procedure: Three coupons of each substrate (ceramic, painted metal, and plastic) were collected and initial weights were taken. Huckers soil was applied to each coupon and allowed to air dry for 24 hours. After the 2 hour dry time, the weights of the newly contaminated coupons were measured. All coupons were placed into a Straight-Line Washability (SLW) machine. A KC Wypall cleaning cloth was attached to the cleaning block used for the test. The Wypall cloth and all coupons received 2 sprays of the Earth Essentials Cleaner and the SLW machine 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: Earth Essentials performed best on ceramic with a removal average of 85%. Both painted metal and plastic had a removal average of 82%. There was minimal soil left on the surface of the coupons.

| Substrate     | Initial wt. of cont. | Final wt. of cont | Average | Combined Average |
|---------------|----------------------|-------------------|---------|------------------|
| Ceramic       | 0.0734               | 0.0107            | 85.42   | 84.89            |
|               | 0.0751               | 0.0107            | 85.75   |                  |
|               | 0.0685               | 0.0113            | 83.50   |                  |
| Painted Metal | 0.0753               | 0.0162            | 78.49   | 82.13            |
|               | 0.0801               | 0.0163            | 79.65   |                  |
|               | 0.1216               | 0.0143            | 88.24   |                  |
| Plastic       | 0.1008               | 0.0159            | 84.23   | 82.24            |
|               | 0.0761               | 0.0157            | 79.37   |                  |
|               | 0.0682               | 0.0115            | 83.14   |                  |

Summary:

Conclusion: Earth essentials was effective at removing Huckers soil from ceramic substrate and left minimal soil on painted metal and plastic.