

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2015
 DateRun: 08/23/2015
 Experimenters: Loc Nguyen, George Liang, Luis Raudales
 ClientType: Cleaner Manufacturer
 ProjectNumber: Project #9
 Substrates: Ceramics, Plastic, Steel
 PartType: Coupon
 Contaminants: Greases, Food
 Cleaning Methods: Manual Wipe
 Analytical Methods: Gravimetric

Purpose: To evaluate supplied products for all purpose cleaning using manual cleaning.

Experimental Procedure: Soil Preparation: A mixture of three cooking oils/greases was made. A melt blend of 33% vegetable shortening, 33% lard, 33% vegetable oil and 1% carbon lampblack was made up fresh for the testing. Prewighed ceramic, painted steel and plastic coupons were coated with one gram of DCC17 soil on each coupon by using a hand held swab and were allowed to dry for 24 hours at room temperature. The contaminated coupons were weighed again to determine the amount of soil added.

Three coupons were placed into a Gardner Straight Line Washability unit. A Wypall X60 reinforced wipe was attached to the cleaning sled and soaked with 1 spray of cleaner. In addition to that each coupon was sprayed with 1 spray of cleaner. The solution was allowed to penetrate for 30 seconds and followed by 20 cycles (~30 seconds) of cleaning in the SLW unit. An additional wipe cycle was done with one spray of water on each coupon and a new Wypall X60 reinforced wipe for rinsing purposes. Coupons were let to dry 24 hours before reweighing and efficiency was calculated.

Cleaners Evaluated: Soft Scrub All Purpose, Easy Scrub With Lemon

| Cleaner | Initial wt | Final wt | % Removed | % Avg. Removed |
|--|------------|----------|-----------|----------------|
| Soft Scrub All Purpose _ Ceramic | 0.4758 | 0.0066 | 98.61 | |
| | 0.4894 | 0.0400 | 91.83 | |
| | 0.5385 | 0.0106 | 98.03 | 96.16 |
| Soft Scrub All Purpose _ Plastic | 0.5000 | 0.0568 | 88.64 | |
| | 0.5169 | 0.0469 | 90.93 | |
| | 0.5072 | 0.0253 | 95.01 | 91.53 |
| Soft Scrub All Purpose _ Painted Steel | 0.4751 | 0.0031 | 99.35 | |
| | 0.5124 | 0.0035 | 99.32 | |
| | 0.4817 | 0.0020 | 99.58 | 99.42 |
| Easy Scrub With Lemon _ Ceramic | 0.5546 | 0.0430 | 92.25 | |
| | 0.4785 | 0.1190 | 75.13 | |
| | 0.5222 | 0.1043 | 80.03 | 82.47 |
| Easy Scrub With Lemon _ Plastic | | | | |

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|---------------------------------------|--------|--------|-------|-------|
| | 0.5397 | 0.0446 | 91.74 | |
| | 0.5172 | 0.0411 | 92.05 | |
| | 0.6057 | 0.0439 | 92.75 | 92.18 |
| Easy Scrub With Lemon _ Painted Steel | | | | |
| | 0.4659 | 0.1419 | 69.54 | |
| | 0.4741 | 0.0066 | 98.61 | |
| | 0.5211 | 0.0104 | 98.00 | 88.72 |

Summary:

| | | | | | |
|----------------------|--------------------------|---------------|--------------------|-------------------------------------|----------------------|
| Substrates: | Ceramics, Plastic, Steel | | | | |
| Contaminants: | Greases, Food | | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| Dial Professional | Soft Scrub Lemon | 100 | 95.70 | <input checked="" type="checkbox"/> | |
| Purex Ind. (Bab-o) | Cleaning Gel With Bleach | 100 | 87.79 | <input checked="" type="checkbox"/> | |

Conclusion:

Both cleaning agents were effective at removing the contaminants from the surface. However Soft Scrub All Purpose had a higher efficiency than Easy Scrub With Lemon by 7.91%.