

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2008

DateRun: 12/23/2008

Experimenters: Jason Marshall

ClientType: Cleaner Manufacturer

ProjectNumber: Project #1

Substrates: Ceramics, Plastic, Steel

PartType: Coupon

Contaminants: Hucker's Soil

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: To reevaluate product as compared to a conventional all purpose cleaning product following GS 37.

Experimental Procedure: The supplied cleaning product was used at the supplied concentration (25:1). A second product, selected by the lab, was used at full strength as recommended by the vendor for all purpose cleaning. Prewedged ceramic were coated with Hucker's Soil Formulation (Jif Creamy Peanut Butter 9.2%, Salted Butter 9.2%, Arrowhead Mills stone ground wheat flour 9.2%, Egg Yolk 9.2%, Evaporated milk 13.8%, Distilled water 45.8%, Printer's ink with boiled linseed oil 0.9%, Shaws saline solution 2.7%) using a handheld swab and 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 Kimberly Clark Reinforced paper towel was attached to the cleaning sled and soaked with 5-7 sprays of cleaning solutions. Each coupon was sprayed 7-10 times with the same cleaning solution. The solution was allowed to penetrate for 30 seconds followed by cleaning in the SLW unit for 20 cycles (~33 seconds). At the end of the cleaning, coupons were wiped once with a dry paper towel. Final weights were recorded, and efficiencies were calculated and recorded.

Results: Both the supplied product and industry product were effective in removing the Hucker's Soil with a manual wiping action. The table lists the amount of soil initially added and the amount remaining after cleaning and the product efficiency for each coupon cleaned.

| Cleaner                        | Initial wt | Final wt | % Removed |
|--------------------------------|------------|----------|-----------|
| Super H2O2 - ceramic           | 0.2529     | 0.0061   | 97.59     |
|                                | 0.1897     | 0.0093   | 95.10     |
|                                | 0.2924     | 0.0254   | 91.31     |
| Super H2O2 - painted steel     | 0.2073     | 0.0176   | 91.51     |
|                                | 0.3476     | 0.0254   | 92.69     |
|                                | 0.2226     | 0.0042   | 98.11     |
| Super H2O2 - plastic           | 0.1897     | 0.0014   | 99.26     |
|                                | 0.1385     | 0.0029   | 97.91     |
|                                | 0.1321     | 0.0029   | 97.80     |
| Formula 409 AP - ceramic       | 0.2056     | 0.0265   | 87.11     |
|                                | 0.1933     | 0.0164   | 91.52     |
|                                | 0.1932     | 0.0227   | 88.25     |
| Formula 409 AP - painted steel | 0.3580     | 0.0104   | 97.09     |
|                                | 0.4966     | 0.0205   | 95.87     |
|                                | 0.2427     | 0.0282   | 88.38     |
| Formula 409 AP - plastic       | 0.1026     | 0.0012   | 98.83     |
|                                | 0.1440     | 0.0135   | 90.63     |
|                                | 0.3173     | 0.0011   | 99.65     |

Summary:

|                      |                          |
|----------------------|--------------------------|
| <b>Substrates:</b>   | Ceramics, Plastic, Steel |
| <b>Contaminants:</b> | Hucker's Soil            |

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| Company Name:      | Product Name:                   | Conc.: | Efficiency: | Effective:                          | Observations: |
|--------------------|---------------------------------|--------|-------------|-------------------------------------|---------------|
| Cleanline Products | H2O2 Super Citrus Concentrate   | 4      | 95.70       | <input checked="" type="checkbox"/> |               |
| Clorox Company     | Formula 409 All Purpose Cleaner | 100    | 93.04       | <input checked="" type="checkbox"/> |               |

**Conclusion:**

The supplied product had an overall average efficiency greater than 85% and was as effective as the conventional all-purpose cleaner. Therefore, the product would be considered effective based on the SSL testing methodology and the GS 37 standard.