# CLEANING LABORATORY EVALUATION SUMMARY

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|---|---|
| SCL #: | 2017 |
| DateRun: | 03/22/2017 |
| Experimenters: | George Liang, Nicholas Landberg, Vinh Tran, Austin Buda, Dan Aspach |
| ClientType: | Cleaner Manufacturer |
| ProjectNumber: | Project #2 |
| Substrates: | Skin |
| PartType: | Coupon |
| Contaminants: | Dirt |
| Cleaning Methods: | Manual Wipe |
| Analytical Methods: | Tactile, Visual |
| Purpose: | To evaluate non-foaming hand soap against leading conventional and green products using GS 41. |

Experimental Procedure:

Using a fixed, repeatable procedure, the product's efficacy was tested against a nationally recognized conventional product showing equivalent or better performance. The testing protocol included: cleaning ability, lathering/rinsing, and skin condition after use. A standard soil was used and conclusions derived from separate testers. To that end, the TURI Lab established hand cleaning protocol for testing non-foaming hand soaps is as follows:

The soil used consisted of a ratio of 5 grams of Synthetic carpet soil AATCC Test Method 122 to 20 mL tap water. The water and soil were mixed together to make a paste. A quarter size amount of soil was applied to a subject's hand. The hands were then rubbed together to distribute soil to both hands.

Using tap water, hands were wetted and one to two pumps of non-foaming hand soap were applied. The hands were rubbed together with soap and water for 20 seconds followed by rinsing hands in tap water for 20 seconds. Final step was to pat the hands dry for 20 seconds.

During and after cleaning, observations were made for cleaning, lathering/ rinsing and skin condition. Cleaning and lathering/rinsing observations were made once and the skin condition was recorded at 1, 5, 20 and 60 minutes.

Observations were ranked using the following guidelines:
Observe cleanliness
Rank Cleanliness
1 No signs of soil
2 Only in fine lines of hand or Intermittent spots but not in fine lines
3 Intermittent spots and in fine lines
4 Multiple spots
5 Continually covered

Observe lathering/rinsing
Rank Lathering/Rinsing
1 Lots of lathering – easy rinsing
2 Some lathering – easy rinsing
3 Some lathering – hard rinsing
4 Little lathering – easy rinsing/ No lathering – easy rinsing
5 No lathering – hard rinsing

Observe skin condition after clean/rinse/dry at 1 minute, 5 minutes, 20 minutes and 60 minutes.
Rank Skin Condition Observation
1 Smooth and soft
2 Some dryness
3 Dry - Hands turning white
4 Skin stiffening
5 Very dry - Cracking of skin

Photographs of each subject's hands before soil, after soiling and after cleaning were taken to document cleaning results.

Results:

| Type of Cleaner | | | Observe skin condition | | | | |
|---|---|---|---|---|---|---|---|
| AGAE Hand Soap slurry/ gel | Tester | Clean | Lather/ Rinse | 1 min | 5 min | 20 min | 60 min |
| | 1 | 2.5 | 4 | 1 | 1 | 1.5 | 1 |
| | 2 | 1.5 | 4 | 2 | 2 | 2 | 2 |
| | 3 | 3 | 4 | 2 | 2 | 1.5 | 1.5 |
| | 4 | 2.5 | 4 | 1.5 | 1.5 | 2 | 3 |
| | 5 | 2.5 | 4 | 2.5 | 2.5 | 3 | 1 |
| | 6 | 3 | 2.5 | 1 | 1 | 1 | 1 |

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|---|---|---|---|---|---|---|---|
| Method Sweet Water | 1 | 2 | 4 | 1.5 | 1.5 | 1.5 | 2 |
| | 2 | 1.5 | 4 | 2 | 2 | 2.5 | 2.5 |
| | 3 | 2.5 | 4 | 2.5 | 2 | 1.5 | 1.5 |
| | 4 | 3 | 4 | 1 | 1 | 3 | 3.5 |
| | 5 | 1.5 | 4 | 3.5 | 2.5 | 1.5 | 1 |
| | 6 | 2.5 | 1 | 1 | 1 | 1.5 | 1.5 |
| Softsoap Clean Splash | 1 | 1.5 | 4 | 1.5 | 1.5 | 2.5 | 4 |
| | 2 | 3 | 2 | 2 | 2 | 3 | 2.5 |
| | 3 | 3.5 | 4 | 1.5 | 2 | 1 | 1.5 |
| | 4 | 2 | 4 | 1 | 1.5 | 2 | 2 |
| | 5 | 3 | 4 | 1.5 | 2 | 2.5 | 2 |
| | 6 | 2.5 | 1.5 | 1 | 1 | 1 | 2 |

Summary:

| **Substrates:** | Skin |
|---|---|
| **Contaminants:** | Dirt |

| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
|---|---|---|---|---|---|
| AGAE Technologies | Hand Soap slurry/gel | 100 | 0.00 | ☑ | C 2.5; L 3.75, S 1.58 |
| Method | Method Sweet Water | 100 | 0.00 | ☑ | C 2.16, L 3.5, S 2 |
| Colgate-Palmolive Company | Soft Soap Clean Splash | 100 | 0.00 | ☑ | C 2.58, L 3.25, 2.33 |

Conclusion:

The AGAE Technologies non-foaming soap was rated the best on lasting skin condition, second-best for final skin cleanliness but was rated last for lathering effects. The Method soap was rated as the top cleaner by almost every tester, and had the best cleanliness rating overall. But the product was rated worst for lathering. The Soft Soap Clean Splash was rated as the best lathering product, but lowest for cleanliness and skin condition.