

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2017
DateRun: 01/25/2017
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ClientType: Cleaner Manufacturer
ProjectNumber: Project #7
Substrates: Skin
PartType: Coupon
Contaminants: Dirt
Cleaning Methods: Manual Wipe
Analytical Methods: Tactile, Visual
Purpose: To evaluate the supplied product's performance for cleanliness, lathering and dryness under GS 41 Hand Washing test method.

Experimental Procedure: Six testers were used to evaluate the supplied product's performance. A preliminary review of the tester's hands was conducted before soiling their hands with GS 41 Hand Washing test soil. The soil used consisted of 5 grams of Synthetic carpet soil AATCC Test Method 122, 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. Both hands were then rubbed together to distribute the soil to both hands for 20 seconds. The subjected hand was then reevaluated for a cleanliness rating. Two pumps of hand soap were applied to the dirty hands. The hands were rubbed together with soap for 20 seconds and followed by rinsing hands in tap water for 20 seconds. The hands were then blotted dry with paper towels for 20 seconds. Observations were made after cleaning the contaminated hands for cleanliness, lathering/rinsing and skin condition. Cleanliness and lathering 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

Subjects were selected on the basis of initial skin condition. The goal was to select skin types that were normal to dry so that the effect of the cleaners could be judged on at least two skin types.

Results: The observed cleanliness is rated from 1 being no signs of soil to 5 having continuous soil coverage. In addition to that the observed lathering is rated from 1 being lots of lathering to 5 having no lathering. Furthermore, the observed skin condition for dryness is rated from 1 being smooth and soft to 5 being very dry skin. Therefore, a cleaner is more effective when it has a lower observed rating in all three cleanliness, lathering and dryness ratings.

| Cleaner | Dirty | Clean | Avg. Clean |
|---------------------|-------|-------|------------|
| Green Foaming A38AA | 5 | 2.5 | 3.2 |
| | 5 | 4 | |
| | 4.5 | 2 | |
| | 5 | 4 | |
| | 5 | 3.5 | |
| | 5 | 3 | |

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|-----------------|---|-----|---|
| Azura Foam Wash | 5 | 3.5 | 3 |
| | 4 | 2.5 | |
| | 5 | 4 | |
| | 5 | 1.5 | |
| | 5 | 2.5 | |
| | 5 | 4 | |

Observed Lathering Results:

| Cleaner | Lathering | Avg. Lathering |
|---------------------|-----------|----------------|
| Green Foaming A38AA | 2 | 1.8 |
| | 2 | |
| | 1 | |
| | 3 | |
| | 1 | |
| | 2 | |
| Azura Foam Wash | 2 | 1.5 |
| | 2 | |
| | 2 | |
| | 1 | |
| | 1 | |
| | 1 | |

Observed Skin Dryness Results:

| Cleaner | 1 min | 5 min | 20 min | 60 min | Average (60 min.) |
|---------------------|-------|-------|--------|--------|-------------------|
| Green Foaming A38AA | 1.5 | 2.2 | 2 | 2 | 2.1 |
| | 2 | 2.5 | 2.5 | 2.5 | |
| | 2 | 2 | 2 | 2.1 | |
| | 1 | 1 | 1 | 1.5 | |
| | 1 | 1 | 2 | 2.5 | |
| | 2 | 2 | 2 | 2 | |
| Azura Foam Wash | 1 | 2 | 1.5 | 1.5 | 1.9 |
| | 2 | 2 | 2.5 | 3 | |
| | 2 | 2 | 2 | 1.5 | |
| | 2 | 1 | 1 | 2 | |
| | 1.5 | 1.5 | 2 | 2 | |
| | 2 | 2 | 1 | 1.5 | |

Summary:

| Substrates: | | Skin | | | |
|----------------------|----------------------------|--------|-------------|-------------------------------------|---------------------------------|
| Contaminants: | | Dirt | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| Vi-Jon | Vi-Jon Green Foaming A38AA | 100 | | <input checked="" type="checkbox"/> | Clean 3.2; Lather 1.8; Skin 2.1 |
| Deb Group | Azure Foam Wash | 100 | | <input checked="" type="checkbox"/> | Clean 3.0; Lather 1.5; Skin 1.9 |

Conclusion:

Comparative Analysis:

The cleanliness for Green Foaming A38AA was similar to the comparative cleaner (Azura Foam Wash) (3.2 and 3.0 respectively).

The evaluated Green Foaming A38AA cleaner did not have substantially less lathering as the comparative cleaner (1.8 and 1.5 respectively).

There was some observed dryness on the skin for both Green Foaming A38AA and Azura Foam Wash in one hour after the hands were washed (2.1 and 1.9 respectively).

Overall, the most effective evaluated cleaning product in removing GS 41 Hand Washing soil is listed as the following: Azura Foam Wash, Green Foaming A38AA.