CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2017
DateRun:	05/10/2017
Experimenters:	George Liang, Vinh Tran, Kevin Smith
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Skin
PartType:	Coupon
Contaminants:	Dirt
Cleaning Methods:	Manual Wipe
Analytical Methods:	Tactile, Visual
Purpose:	To evaluate supplied products for performance for body cleaning.

Experimental Procedure:

The soil used consisted of 5 grams of Synthetic carpet soil AATCC Test Method 122 and 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 soil to both hands. Using tap water hands were wetted, then one to two pumps of hand soap were applied. Hands were rubbed together with soap and water for 20 seconds followed by rinsing hands in tap water for 20 seconds. Last step was to wipe or blot hands dry for 20 seconds.

During and after cleaning, observations were made for cleaning, lathering/rinsing and skin condition. Cleaning 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

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

Testers showed consistent and similar patterns for soil removal from “dirty” to “cleaned”. Rinse/Lather was similar for all testers (around 2) except for one tester. Skin condition also showed a similar pattern for all testers, they didn’t see much change in softness/dryness after using the soap.

Body Wash A Ratings

Tester	Dirty	Cleaned	Rinse/ Lather	Skin Condition			
				1 min	5 min	20 min	60 min
1	5	2.5	4	2	2	2	1.5
2	4.5	3	2	1	1.5	1.5	1
3	4	1.5	2	2.5	2.5	2	2
4	3.5	3.5	1.5	1.5	2	2	2
5	5	3	2	1.5	1.2	1.2	2

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6	5	5	2.5	2	1.5	1.5	1
	Average 4.5	3.1	2.3	1.8	1.8	1.7	1.6

Except for tester 4, all participants saw similar soil removal ability (Dirty to Cleaned). Rinse/Lather ability was also consistent across all testers as “Little lathering – easy rinsing/ No lathering – easy rinsing”. Testers also found the soap to cause their hands to dry out slightly as time passed after cleaning.

Body Wash B

Tester	Dirty	Cleaned	Rinse/ Lather	Skin Condition			
				1 min	5 min	20 min	60 min
1	5	1.5	4	2	2	2.5	3
2	5	2	4	1	1.5	1.5	1.5
3	4	1.5	4	1.5	2.5	1.5	1.5
4	3.5	3	4	1.5	1.5	2	2
5	5	2	2	1	1	2	2
6	5	2	4	2.5	2	1.5	1
	Average 4.6	2	3.7	1.6	1.8	1.8	1.8

Testers found moderately comparable results in soil removal and consistently 2 or 4 for Rinse/Lather with the difference being the amount of lather they had (some or little). Testers also constantly found the body wash to slightly dry out their hands as time passed after washing.

Body Wash C

Tester	Dirty	Cleaned	Rinse/ Lather	Skin Condition			
				1 min	5 min	20 min	60 min
1	5	2	2	1.5	1.5	2	2
2	4.5	1.5	4	1	1.5	1.5	1.5
3	4.5	2	2	1.5	1.5	2	2
4	4.5	2	2	1.5	1.5	2	2
5	5	1	4	1	1	1	1.5
6	5	1	2	1	1	1.5	1.5
	Average 4.8	1.6	2.7	1.2	1.3	1.7	1.8

All testers found similar soil removal and rinse/lather abilities. However, skin conditions showed no similar patterns. Overall testers’ skin was similar in dryness and softness to their skin conditions prior to the test.

Summary:

Substrates:	Skin				
Contaminants:	Dirt				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Fisher Scientific	Absolute Ethanol	0	0.00	☐	
Stepan	Stepan Body Wash A	100	0.00	☑	Clean 3.08; Lather 2.33; Skin 1.58
Stepan	Stepan Body Wash B	100	0.00	☑	Clean 2.00; Lather 3.67; Skin 1.83
Stepan	Stepan Body Wash C	100	0.00	☑	Clean 1.58; Lather 2.67; Skin 1.75
Stepan	Stepan Body Wash D	100	0.00	☑	Clean 1.42; Lather 2.83; Skin 1.75

Conclusion:

The last formulation was the most effective at removing the soil from the testers’ hands. Formulation A had the most lathering/easiest rinsing abilities and left the testers’ hands feeling the softest after using.