CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2009
DateRun:	04/27/2009
Experimenters:	Jason Marshall, Heidi Wilcox, Fred Youngs, Junhee Cho, Daniel Pina, Jan Hutchins
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Skin
PartType:	Part
Contaminants:	Carbon Deposits, Dirt, Clay, Oxides, Silicones
Cleaning Methods:	Manual Wipe
Analytical Methods:	Photography, Visual
Purpose:	To evaluate supplied products for performance following Green Seal GS 41 hand cleaning standard.
Experimental Procedure:	The testing conducted followed Green Seal's GS 41 standard, Performance testing Hand Cleaners and Hand Soaps Used for Industrial and Institutional Purposes. The product specific performance requirements stated: Using a fixed, repeatable procedure, the product shall demonstrate efficacy against a nationally recognized conventional product showing equivalent or better performance. The testing protocol shall include, at a minimum: cleaning ability, lathering/rinsing, and skin condition after use. A standard soil shall be used and conclusions shall be derived from at least six separate samples. All results, a summary of conclusions and a description of how panelists are chosen shall be submitted. To that end, the TURI Lab established a hand cleaning protocol. The TURI Lab Testing Procedure for Hand Soap Testing followed the procedures listed: Conduct preliminary review of hand condition of subject to characterize skin condition as moist, normal, dry or very dry prior to cleaning. 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 soil to both hands. Using tap water hands were wetted and apply 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. Final 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 (connected 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 subjects hands before soil, after soiling and after cleaning were taken to document cleaning results. Subjects were selected on the basis of 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:	All three products tested were effective at removing a majority of the dirt from hands in the 20 seconds of cleaning and 20 seconds of rinsing. Cleaning was compared to water alone. Based on the observations from the six subjects, the White Pearl was the top cleaning performer followed by the New Dawn Foaming hand soap and the Lucky Super Soft hand soap. The New Dawn Foaming hand soap resulted in the most

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lathering and easiest rinsing during the cleaning process followed by the White Pearl and Lucky Super Soft. The condition of the skin was found to be least effected by the New Dawn Foaming hand cleaner for all intervals except after 60 minutes. The White Pearl was comparable to the New Dawn Foaming soap after 20 minutes and was better at 60 minutes. The Lucky Super Soft also was better on the hands than the New Dawn Foaming at 60 minutes. However, on average, the New Dawn Foaming hand soap caused the least amount of dryness.

Observations for cleaning, lathering/rinsing and skin condition at the four time intervals are listed below for each product tested by the six subjects.

Subject	Starting skin condition	Cleaner	Removal Rating	Lathering/ rinsing Rating	Skin Rating 1 min	Skin Rating 5 min	Skin Rating 20 min	Skin Rating 60 min	Average Skin rating
A	normal/ dry	1	2	4	1	2	3	1	1.75
		2	2	2	1	1	2	1	1.25
		3	3	2	1	1	2	1	1.25
B	normal	1	4	4	1.5	2	2	1	1.625
		2	2	2	1	1	2	1	1.25
		3	2	1	1	1	2	2	1.5
C	dry - lotion used	1	1	2	2	2	3	3	2.5
		2	4	4	1	1	2	2	1.5
		3	1	2	1	1	2	2.5	1.625
D	normal	1	3	2	2	3	3.5	2	2.625
		2	2	2	1.5	2	2	2	1.875
		3	2	4	1	1.5	1.5	1.5	1.375
E	dry	1	4	2	2	1	1	1	1.25
		2	2	2	2	1.5	1	2	1.625
		3	4	4	2	1	2	2.5	1.875
F	normal	1	3	2	1	1	1	2	1.25
		2	3.5	2	2	2	2	2	2
		3	4	2	1	1	1	1	1
A	normal/ dry	4	5	5	Not assessed	Not assessed	Not assessed	Not assessed	
B	normal	4	5	5	Not assessed	Not assessed	Not assessed	Not assessed	

Summary

	Cleaner	Ave Removal	Ave Lathering/ rinsing	Ave Skin Rating 1	Ave Skin Rating 5	Ave Skin Rating 20	Ave Skin Rating 60	Average Skin rating
Lucky Super Soft Liquid soap	1	2.8	2.7	1.6	1.8	2.3	1.7	1.8
White Pearl hand soap	2	2.6	2.3	1.4	1.4	1.8	1.7	1.6
New Dawn Foaming hand soap	3	2.7	2.5	1.2	1.1	1.8	1.8	1.4
Water	4	5.0	5.0	NA	NA	NA	NA	NA

Summary:

Substrates:	Skin
Contaminants:	Carbon Deposits, Dirt, Clay, Oxides, Silicones

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Delta Brand Inc	Lucky Super Soft Hand Soap	100	0.00	☑	
New Dawn Manufacturing Company	White Pearl Hand Soap	100	0.00	☑	
New Dawn Manufacturing Company	Foaming Hand Soap	100	0.00	☑	

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Water	Water	100	0.00	☐	

Conclusion: The two submitted products, White Pearl and New Dawn Foaming hand soaps, performed as well as or better than the traditional commercially available hand soap Lucky Super Soft hand soap in the three required areas described in Green Seal GS 41.