CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2013
DateRun:	12/11/2013
Experimenters:	Junhee Cho, Jonathan Oljey, George Liang, Sam Kibirige, Russell Curtis, Francisco Abreau
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Skin
PartType:	Coupon
Contaminants:	Dirt
Cleaning Methods:	Manual Wipe
Analytical Methods:	Visual
Purpose:	To evaluate supplied product for performance following DfE hand cleaning requirements.

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. Note: per request of client, lathering and skin condition did not need to be run for this project.

To that end, the TURI Lab established a hand cleaning protocol. The TURI Lab Testing Procedure for Hand Soap Testing followed the procedures listed:
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 two pumps of supplied hand soap was applied. The comparative product was used in the same weight range of the supplied product. This was about a half of one full pump. 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 the evaluation observations were made for cleaning and rinsing. 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 Rinsing
Rank Rinsing
1 Easy rinsing – no residue
2 Easy rinsing – some residue
3 Hard rinsing – no residue
4 Hard rinsing – some residue
5 Hard rinsing – lots of residue
(Easy rising requires very little hand scrubbing. Hard rinsing required lots of scrubbing or extended time to remove all soap residue)

Photographs of each subject’s 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.

Chemistries Evaluated: Method Fall Collection; Vi-Jon Formula 1; Vi-Jon Formula 2; Vi-Jon Formula 3

Results:

Two of the three supplied product 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 the Method brand product. Based on the observations from the six subjects, the Method product was the top cleaning performer receiving an average score of 2.5 The Formula 1 and 2 products had an average score of 3.3 and Formula 3 came in at 3.5. Rinsing followed a similar pattern with the Method product having the easiest rinsing with an average of 2.0, followed by Formula 1 with an average of 2.8, Formula 2 at 3.2 and Formula 3 at 3.3.

Observations for cleaning and rinsing are listed below for each product tested by the six subjects.

Cleanliness

	Observer	

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Product	1	2	3	4	5	6	Average
Method	2	2	3	4	2	2	2.5
Vi-Jon Formula 1	3	3	2	5	4	3	3.3
Vi-Jon Formula 2	4	4	2	4	3	3	3.3
Vi-Jon Formula 3	3	4	1	5	3	5	3.5

Rinsing

	Observer						
Product	1	2	3	4	5	6	Average
Method	2	2	2	2	2	2	2.0
Vi-Jon Formula 1	3	3	4	2	3	2	2.8
Vi-Jon Formula 2	4	4	4	2	3	2	3.2
Vi-Jon Formula 3	3	4	4	3	3	3	3.3

Summary:

Substrates:	Skin				
Contaminants:	Dirt				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Method	Method Hand Soap Fall Collection	100	0.00	☑	Rating 2/5; 1 best
Vi-Jon	Vi-Jon Hand Soap Formula 1	100	0.00	☑	Rating 2.8/5; 1 best
Vi-Jon	Vi-Jon Hand Soap Formula 2	100	0.00	☐	Rating 3.2/5; 1 best
Vi-Jon	Vi-Jon Hand Soap Formula 3	100	0.00	☐	Rating 3.3/5; 1 best

Conclusion: Formula 1 and 2 products performed nearly as well as the traditional commercially available hand soap.