

Liponate[®] SB-50:

Body Wash and Cleansing Applications

November 2012



Liponate[®] SB-50

INCI: PEG-50 Shea Butter

- Opaque off-white to pale yellow liquid
- 50 mole ethoxylate of shea butter
 - produced using highly refined shea butter

Properties & Benefits

- Provides softening & conditioning properties associated with shea butter in a liquid form
- Hot and Cold process manufacturing

Applications

- Body washes, shower gels
- Liquid soaps, shampoos, wet wipes

Liponate[®] SB-50: Performance Studies

Body Wash and Shower Gel Applications:

Panel Testing to evaluate the performance benefits of Liponate[®] SB-50 in body wash, shower gel, facial cleanser and liquid hand soap formulations.

Panel Study Design:

- Study 1: Foam Quality by Hand Washing
- Study 2: Skin Conditioning on Inner Forearm

Foam Generation Study

Liponate[®] SB-50: Panel Test Evaluation

Study 1: Evaluation of Foam Properties

- Panelists: 10 (Male and Female)
- Test Formulation:
 - Surfactant Cleansing System with 3% Liponate[®] SB-50
 - Surfactant Cleansing System without Liponate[®] SB-50
- Hand Wash Study Protocol
- Parameters Evaluated
 - Foam volume (quantity)
 - Foam appearance (structure)
 - Foam feel (moisture)

Liponate® SB-50 Test Formulation

Test Formulation:

Moisturizing body wash with 3% Liponate® SB-50 in comparison to control

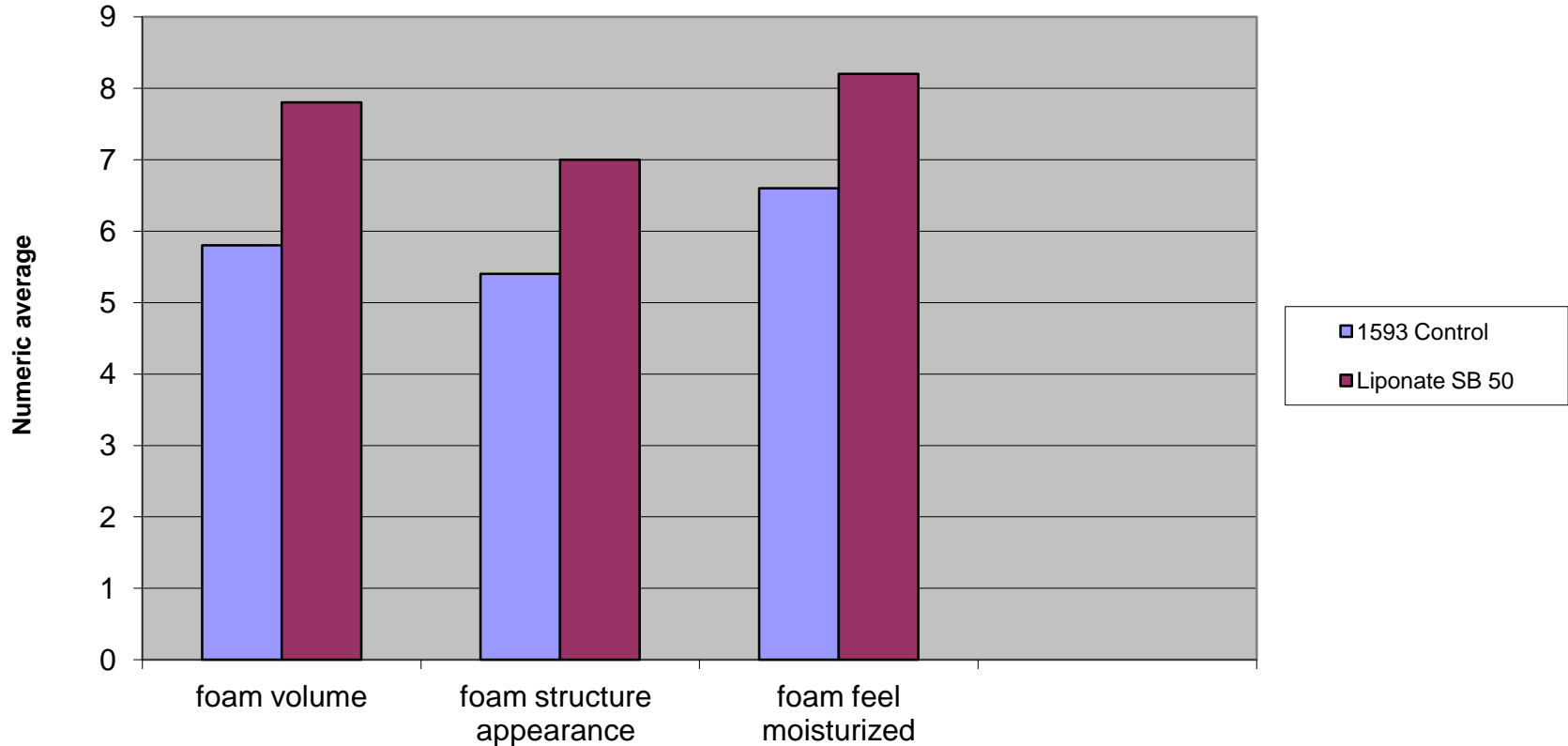
<u>SEQUENCE</u>	<u>PERCENT</u>	<u>INGREDIENT</u>	<u>INCI NAME</u>
1	61.65	Deionized Water	Water
1	0.10	Disodium EDTA	Disodium EDTA
1	0.25	Celquat SC-240C	Polyquaternium-10
2	15.00	Standapol ES-2	Sodium Laureth Sulfate
2	10.00	Proteric CDX-38	Disodium Cocoamphodiacetate
2	8.00	Velvetex BK-35	Cocamidopropyl Betaine
2	3.00	Liponate® SB-50	PEG-50 Shea Butter
3	2.00	Polytex® 10M	Glycol Stearate (and) Stearamide AMP
4	qs	Sodium Chloride	Sodium Chloride
5	qs	Preservative	(Preservative)

100.00%



Liponate[®] SB-50: Panel Test 1 Results

Body Wash Panel Test - Hand Washing



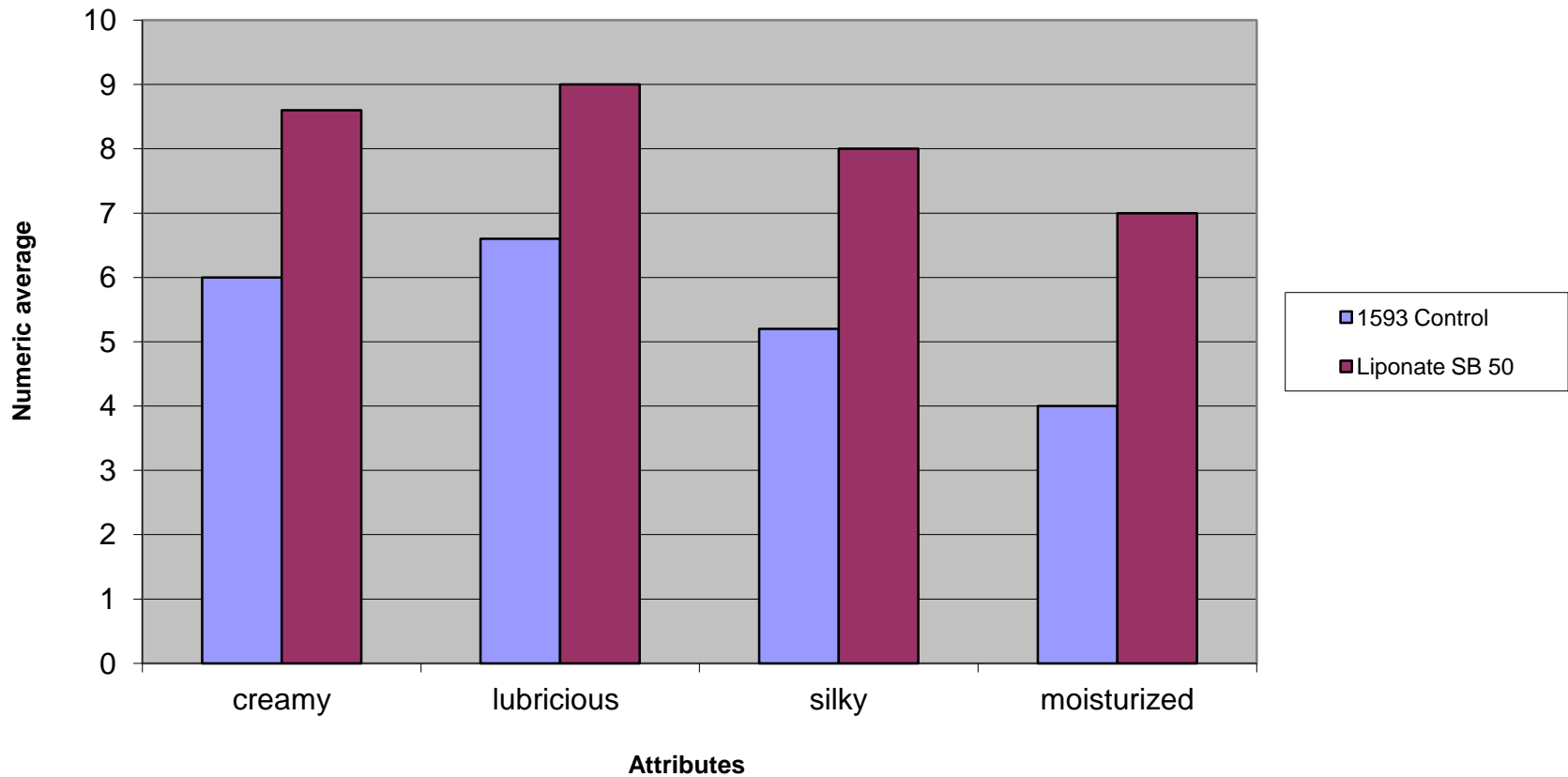
Liponate[®] SB-50: Panel Test Evaluation

Study 2: Evaluation of Sensorial Feel

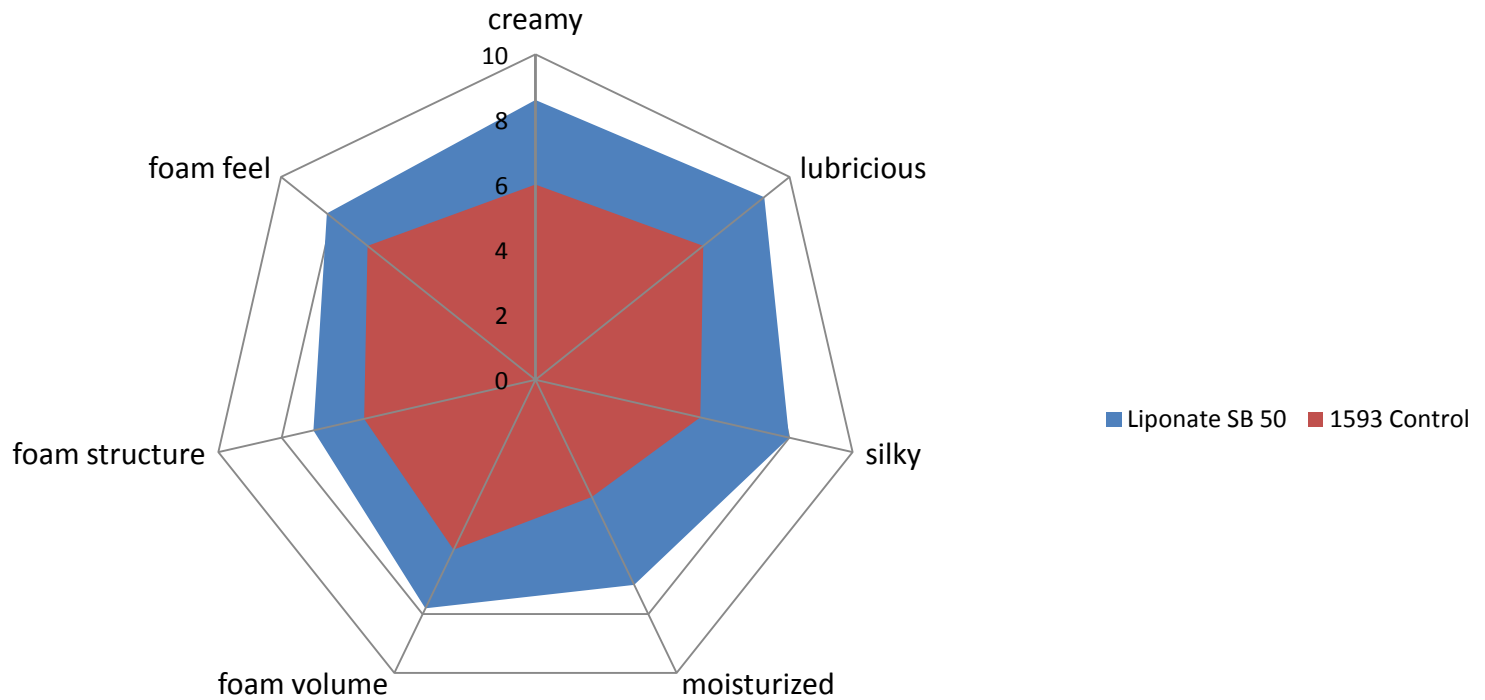
- Panelists: 10 (Male and Female)
- Test Formulation:
 - Surfactant Cleansing System with 3% Liponate[®] SB-50
 - Surfactant Cleansing System without Liponate[®] SB-50
- Inner Forearm Rinse Off Study Protocol
- Parameters Evaluated
 - Initial sensory feel during application
 - Sensory feel during use
 - Final sensory feel
 - Final skin feel

Liponate[®] SB-50: Panel Test 2 Results

Body Wash Panel Test - Inner Forearm Area



Liponate[®] SB-50: Panel Testing Combined Results



Liponate[®] SB-50: Panel Test Conclusions

Conclusions:

- Based on the subjective panel study evaluation results, the Liponate[®] SB-50 body wash clearly showed a marked improvement in performance when compared to the control
- Performance benefits include:
 - Enhanced foam volume and appearance
 - Creamy lubricious feel
 - Silky after feel on the skin
 - Moisturized skin feel

Liponate[®] SB-50: Foam Generation Study

Study 3: Effect on Foam Generation

- Standard Blender Foam Generation Protocol
- Surfactant Blend from the Panel Study
 - 15.00 Sodium Laureth Sulfate
 - 10.00 Disodium Cocoamphodiacetate
 - 8.00 Cocamidopropyl Betaine
- 10% concentration of surfactant blend was tested
 - control without Liponate[®] SB-50.
 - surfactant blend with 1% Liponate[®] SB-50
 - surfactant blend with 2% Liponate[®] SB-50
 - surfactant blend with 3% Liponate[®] SB-50

Foam Generation Results

Results:

- Control (w/o SB-50) Initial foam volume: 800 ml; foam/water interface: 50 ml
 - 1% Liponate[®] SB-50 Initial foam volume: 830 ml; foam/water interface: 60 ml
 - 2% Liponate[®] SB-50 Initial foam volume: 810 ml; foam/water interface: 60 ml
 - 3% Liponate[®] SB-50 Initial foam volume: 780 ml; foam/water interface: 65 ml
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- Foam structures were identical having a very tight dense foam.
 - Foam/water interface was clear for the control and slightly hazy for the Liponate[®] SB-50 containing samples.

Conclusion:

- Liponate[®] SB-50 does not have a negative impact on foam generation

Liponate[®] SB-50

Performance Benefits in Surfactant Systems

- Enhanced foam appearance
- Creamy lubricious feel
- Silky after feel on the skin
- Moisturized skin feel

Applications

- Body Washes and Shower Gels
- Liquid Hand Soaps
- Facial Cleansers and Wet Wipes
- Recommended use level: 1 to 3%

