

Isethionate Surfactant

Iselux® LQ-CLR-SB

INCI Name: Sodium Lauroyl Methyl Isethionate

CAS No.: 928663-45-0

Sodium Lauroyl Methyl Isethionate (SLMI) is our latest technological breakthrough in surfactant chemistry.

Iselux® LQ-CLR-SB is an extremely mild surfactant that can be used in formulations as a primary or secondary surfactant and is ideally used where a dense, luxurious foam and elegant after-feel is desired. It provides gentle yet thorough cleansing with outstanding rinseability. The excellent water solubility properties allow the formulator to produce crystal clear liquid cleansing systems.

The secondary ester structure of Iselux® LQ-CLR-SB makes it more hydrolytically stable than many common esters and this coupled with its broad pH stability range makes formulating easy. Iselux® LQ-CLR-SB is ideal for use in shower gels, facial cleansers, shampoos, liquid cleansing systems, and luxury foam baths. Iselux® LQ-CLR-SB can also be used to prepare high performance, "sulfate-free" personal cleansing products as well as structured liquid systems.



TYPICAL PROPERTIES

Not intended for use in preparing specifications

Feature	Benefit
Structured Systems achievable	Dramatic formulation flexibility and enhanced creativity
Dense creamy long-lasting lather Elegance after-feel	Creates a luxurious bath and shower experience
Ultra mild surfactant	Ideal for sensitive skin
Excellent water solubility	Can be used in clear systems
Sulfate free 1,4-Dioxane free Nitrosamine free	Safe at all use levels
Readily biodegradable Derived from natural/renewable resources	Friendly to the environment
Formulates like an ether sulphate Broad pH stability	Formulating ease and flexibility

Appearance	Clear light yellow liquid
Odour	Mild, characteristic
Activity, %	32 minimum
Non-Volatiles, %	39 minimum
pH (as is)	5.5-6.5
Color, APHA (as is)	200 maximum
Viscosity (cps) @ 25°C (#5@20rpm)	3500 maximum

Iselux® LQ-CLR-SB contains the following:

- Sodium benzoate as preservative
- trisodium ethylenediamine disuccinate as a chelant

How to Formulate

- Iselux[®] LQ-CLR-SB is easy to formulate with as it is pre-blended into a clear solution.
- Add remaining materials (co-surfactants, polymers, conditioning agents, etc.) into Iselux[®] LQ-CLR-SB solution.
- Adjust to desired pH. When using amphoteric co-surfactants, optimum clarity is reached between pH 5.0 to 6.0.
- If desired, electrolytes such as Sodium Chloride can be used in combination with co-surfactants such as cocamidopropyl betaine to increase viscosity

Storage

Product may haze and/or thicken in cold storage, allow product to equilibrate to room temperature before using

Performance Properties

Clarity

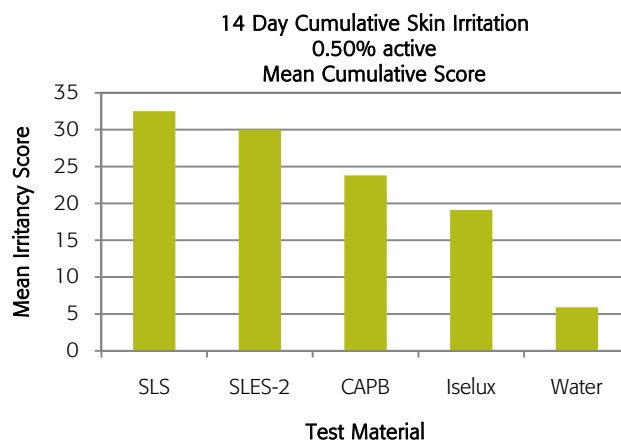
Iselux[®] LQ-CLR-SB provides crystal-clear formulations.



Left: 10% SLS in water
Right: 10% Iselux[®] LQ-CLR-SB in water

Mildness

Iselux[®] LQ-CLR-SB shows a reduced irritancy profile versus other common surfactants.



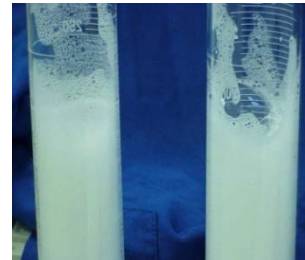
Foaming Profile

Iselux® LQ-CLR-SB has an excellent foaming profile. Its flash foam is comparable to the flash foam of Sodium Lauryl Ether Sulfate and it forms tight, thick long-lasting bubbles.

0.5% Sodium Lauryl Ether Sulfate
0 Min vs 10 Min

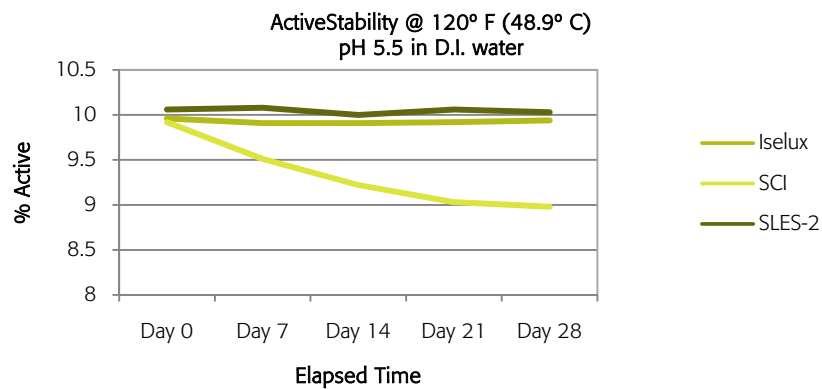


0.5% Sodium Lauroyl Methyl Isethionate
0 Min vs 10 Min



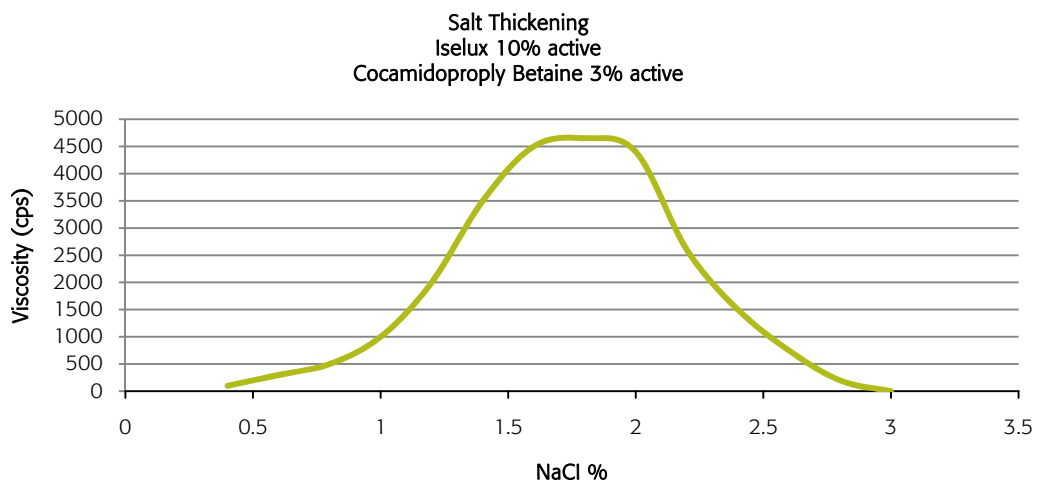
pH Stability

Iselux® LQ-CLR-SB shows excellent stability over a broad pH range and can be incorporated into formulations ranging from pH 4.5-8.5. It has also proven to be stable in formulations under high and low temperature stability conditions.



Thickening

Iselux® LQ-CLR-SB solutions will thicken slightly with the addition of electrolytes such as Sodium Chloride. The addition of secondary surfactants such as Cocamidopropyl Betaine and Sodium Lauroamphoacetate can be used to further enhance viscosity.



Suggested Formulations: Skin Care, Hair Care

Sulfate-Free Shampoo AC135b

A crystal clear shampoo formulation featuring the dense luxurious lather of Iselux® LQ-CLR-SB sulfate-free surfactant.

	INCI Ingredients	Tradename (Supplier)	% w/w
A	Water		q.s to 100
	Sodium Lauroyl Methyl Isethionate	Iselux® LQ-CLR-SB (Innospec)	30.00
	Sodium Lauroamphoacetate	Pureact LAA (Innospec)	4.00
	Cocamidopropyl Betaine (35% soln)	Mirataine BET C-30 (Rhodia)	9.00
B	Glycerin		1.50
	Polyquaternium-10	Ucare Polymer JR-125 (Dow)	0.20
C	Preservative		q.s
D	Citric acid (50% soln)		q.s. to pH 5.5-6.0
E	Sodium Chloride		0.20

Preparation Procedure

1. Blend ingredients of phase A, one at a time, into system and mix until uniform.
2. Add the pre-mix B and mix until uniform
3. Add Preservative and mix until uniform
4. Adjust pH of the system to 5.5-6.0 with a 50% citric acid solution as needed.
5. Add sodium chloride incrementally as needed to increase viscosity and mix thoroughly.

Properties

Appearance	Clear solution
pH	5.5 - 6.0
Viscosity*	4,000 - 6,000 cps

* Brookfield DV-E@10 rpm, 25 °C, #3 spindle

Iselux® Sulfate-Free Facial Cleanser AC141b

This mild, sulfate free facial cleanser features Iselux® LQ-CLR-SB and Pureact WS Conc. which produce a dense creamy lather upon application. The Activsoft C17 imparts a soft, elegant feel to the skin and also helps improve the foam quality. The Activsoft S and the Aminol CM Flakes thicken this formulation and help stabilize the foam. The Finsolv® TPP acts as a mild solublizing agent to gently remove make-up and soils from skin as well as to provide conditioning.

	INCI Ingredients	Tradename (Supplier)	% w/w
A	Water		q.s.
B	Sodium Chloride		4.00
C	Guar Hydroxypropyltrimonium Chloride	Activsoft C-17 (Innospec)	0.20
D	Disodium Cocoamphodiacetate	Miranol C2M Conc. N.P. (Rhodia)	7.50
E	Sodium Methyl Cocoyl Taurate	Pureact WS Conc. (Innospec)	7.50
F	Cyamopsis Tetragonoloba Guar Gum	Activsoft S (Innospec)	0.35
	Glycerin		1.00
G	Sodium Lauroyl Methyl Isethionate	Iselux® LQ-CLR-SB (Innospec)	30.00
H	Cocamide MEA	Aminol CM Flakes (Innospec)	3.50
I	Cocamidopropyl Betaine	Mirataine BET C-30 (Rhodia)	10.00
J	C12-15 alkyl benzoate (and) Dipropylene Glycol Dibenzoate (and) PPG-15 Stearyl Ether Benzoate	Finsolv® TPP (Innospec)	5.00
K	Preservative, dye, fragrance		q.s.
L	Citric acid solution (50%)		q.s. to – pH 5.0-5.6

Preparation Procedure

1. Dissolve Sodium Chloride in D. I. Water system.
2. With smooth mechanical agitation slowly blend Activsoft C-17 in water system. Mix until completely dispersed and uniform.
3. Slowly blend Miranol C2M Conc. into system. Mix until uniform. Warm system to 40-45°C with smooth mechanical agitation.
4. Slowly blend Pureact WS CONC. into heated system and mix until completely dissolved.
5. In a separate mixing vessel, combine Activsoft-S and Glycerine. Mix into a soft slurry that is completely uniform. Slowly blend this pre-mix slurry into main system and mix until uniform.
6. Slowly blend Iselux® LQ-CLR-SB into system. Mix until uniform.
7. Slowly blend Aminol CM FLAKES into system. Mix until uniform. Remove heat.
8. Slowly blend Mirataine BET-C-30 into system. Mix until uniform.
9. Slowly blend Finsolv® TPP into system. Mix until uniform.
10. Add compatible fragrance, dye(s) and preservative.
11. Adjust pH of system to 5.0-5.6 with Citric Acid Solution (50% Aq.) as required. The system should thicken noticeably with the pH adjustment. Mix for at least 30 minutes to reach final consistency.

Iselux® Shower gel with beads AC137d

This crystal clear shower gel formulation features the luxurious foam of Iselux® LQ-CLR-SB in a polymer-thickened system that is able to suspend colored beads for visual appeal.

	INCI Ingredients	Tradename (Supplier)	% w/w
A	Water		q.s to 100
B	Acrylates Copolymer (30% Sln)	Carbopol Aqua SF-1 (Protameen Chemicals, Inc)	8.00
C	Sodium Lauroyl Methyl Isethionate	Iselux® LQ-CLR-SB (Innospec)	30.00
	Cocamidopropyl Betaine (35% soln)	Mirataine BET C-30 (Rhodia)	10.00
D	Triethanolamine	Tealan 99% (Rita Corp.)	1.00
E	Citric Acid (50% soln)		q.s. to pH 5.5-6.0
F	Preservative		q.s.
G	Polyethylene, DC Yellow No10 Aluminum Lake & FD&C Blue No1 Aluminum Lake	Performalene 7204 Beads (New Phase Technologies)	0.45
	Mannitol, Cellulose, Mica, Acrylates/Ammonium Methacrylate copolymer, CI 77891, Talc, Thiethyl Citrate & Hydroxypropyl Methylcellulose	Unispheres NTL-3510C (Induchem)	0.95

Preparation Procedure

1. With smooth mechanical agitation, add and mix ingredient of Phase B into water. Begin heating to 50-60°C and continue mixing.
2. Add and mix Iselux® LQ-CLR-SB with moderate agitation until fully dissolved when the mixture gets clear with a bluish cast
3. Add and mix the betaine until fully dissolved
4. Add and mix the neutralizer to a pH above 6.5
5. Adjust pH down to 5.5-6.0 with citric acid solution for desired final pH
6. Add and mix Preservative until uniform
7. Add beads as desired or appropriate

Properties

Appearance	Clear beaded gel
pH	5.5 - 6.5
Viscosity*	8,000 - 12,000 cps
Stability	Passed 1 month at 45°C

* Brookfield DV-E@20 rpm, 25 °C, #6 spindle

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For further information, please email your region:

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