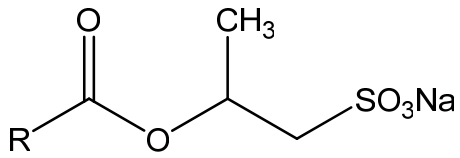


Iselux®

INCI Name: Sodium Lauroyl Methyl Isethionate
CAS N°: 928663-45-0 REACH N° 01-2119401252-59-0000 EINECS N° 700-150-3



Where R = C_{11}

Sodium Lauroyl Methyl Isethionate

Iselux® is our latest technological breakthrough in surfactant chemistry. Iselux® 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.

Applications

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

Feature	Benefit
Structured Systems achievable	Dramatic formulation flexibility and enhanced creativity
Dense creamy long-lasting lather Elegant 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 sulfate Broad pH stability	Formulating ease and flexibility

innospec active chemicals

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Typical Properties (not intended for use in preparing specifications)

Appearance	White to off-white flakes or chips
Colour, APHA (5% solution in 30% Isopropanol/70% distilled water)	50 maximum
Odour	Mild, fatty
Activity	80 – 85%
Free fatty acid	10% maximum
Water	0.5% maximum
pH 10% @35°C	4.5 – 7.0

How to Formulate with Iselux®

- Add sufficient level of chelating agent such as Natrlquest E30* or EDTA to water and mix. Typical use levels of chelating agent are 0.3% active chelating agent for every 10% active Iselux®.

  Use levels of chelating agents can be reduced or eliminated by using co-surfactants such as sodium alkylamphoacetate or disodium alkylamphodiacetate.

- Add Iselux® and begin heating to 50-60°C; continue to mix until all of the Iselux® is dissolved.
- Add remaining materials (co-surfactants, polymers, conditioning agents, etc.) and cool solution once uniform
- Adjust to desired pH. When using amphoteric co-surfactants optimum clarity is achieved at pH 5.0 to 6.0
- If desired, electrolytes such as sodium chloride can be added to increase viscosity

Performance Properties

Clarity

Sufficient use of a chelating agent or co-surfactants, such as alkylamphoacetates, is recommended to achieve optimum clarity in systems containing Iselux®.

Mildness

Iselux® shows a reduced irritancy profile versus other common surfactants.

Foaming Profile

Iselux® has an excellent foaming profile. Its flash foam is comparable to that of sodium laureth sulfate and it forms dense creamy long-lasting bubbles.

*INCI: Trisodium Ethylenediamine Disuccinate, Innospec's biodegradable chelating agent

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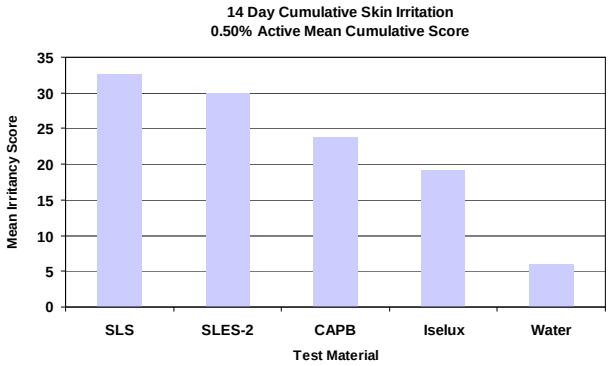
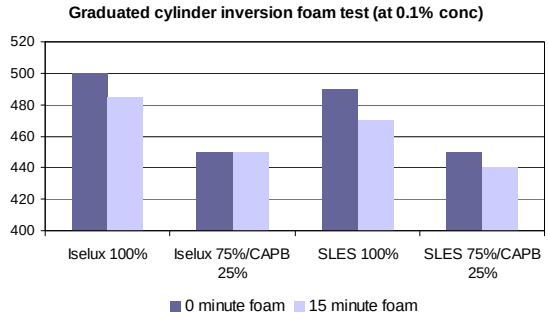
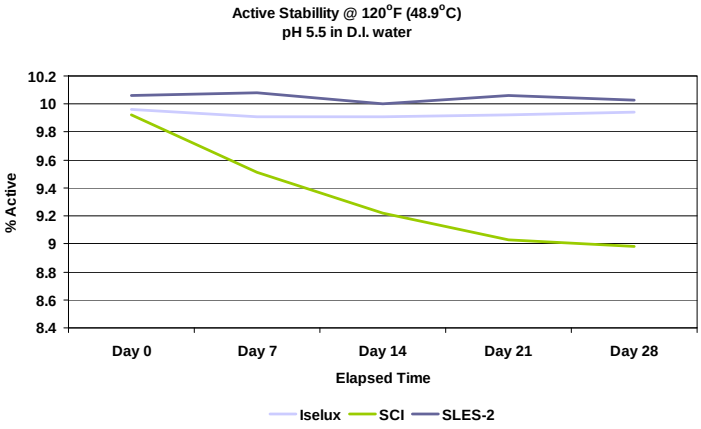




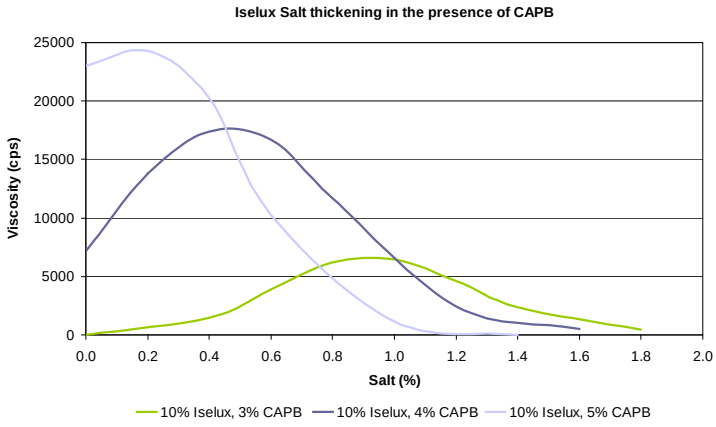
pH Stability

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



Thickening

Iselux® solutions will thicken slightly with the addition of electrolytes such as sodium chloride. The addition of secondary surfactants such as cocamidopropyl betaine can be used to further enhance viscosity.



CAPB = Cocamidopropyl betaine

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AC121 Sulfate Free Shampoo

A crystal clear shampoo formulation featuring the dense luxurious lather of Iselux® sulfate-free surfactant. Natrlquest E30 acts as the environmentally friendly biodegradable chelating agent that facilitates the clarity of this formulation.

	INCI Ingredients	Tradename (Supplier)	%w/w
A	Water		q.s to 100
	Trisodium Ethylenediamine disuccinate	Natrlquest™ E30 (Innospec)	0.20
	Sodium Lauroyl Methyl Isethionate	Iselux® (Innospec)	11.75
	Sodium Lauroamphoacetate		8.00
	Cocamidopropyl Betaine (35% solution)	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% solution)		q.s. to pH 5.5-6.0

Preparation Procedure

1. Dissolve the Natrlquest E30 in deionised water
2. With smooth agitation slowly blend ingredients of phase A, one at a time, into system. Begin heating to 50-60ºC with smooth agitation and mix until uniform.
3. Add the pre-mix B and mix until uniform
4. Cool down system to 30-35ºC with smooth agitation
5. Add preservative and mix until uniform
6. Adjust pH of the system to 5.5-6.0 with a 50% citric acid solution as needed

Properties

Appearance : Clear solution
pH : 5.5-6.0
Stability : Passed1 month at 45 °C, 3 cycles freeze/thaw
Viscosity* : 8,000-12,000 cps

*Brookfield DV-E @10 RPM, 35ºC, #3 Spindle

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AC127 Body Wash – Structured Formulation

This body wash is a mild sulfate-free cleanser featuring Iselux® and Pureact WS Conc to produce a dense creamy lather upon application. It demonstrates how Iselux® can be used in structured formulations allowing higher levels of oils to be used. The Activsoft C-17 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 stabilise the foam. The Finsolv® TN acts as a mild solubilising agent to gently remove soils from the skin as well as to provide conditioning. Natrlquest E30 is Innospec's biodegradable chelating agent.

	INCI Ingredients	Tradename (Supplier)	%w/w
A	Water		q.s to 100
	Trisodium Ethylenediamine Disuccinate	Natrlquest™ E30 (Innospec)	0.15
B	Sodium Chloride		4.00
C	Guar Hydroxypropyltrimonium Chloride	Activsoft C-17 (Innospec)	0.20
D	Disodium Cocoamphodipropionate	Miranol C2M Conc (Rhodia)	7.50
E	Sodium Methyl Cocoyl Taurate	Pureact WS Conc (Innospec)	7.50
F	Cyamopsis Tetragonoloba (Guar) Gum	Activsoft S (Innospec)	0.50
	Glycerin		1.00
G	Sodium Lauroyl Methyl Isethionate	Iselux® (Innospec)	12.50
H	Cocamide MEA	Aminol CM flakes (Innospec)	3.50
I	Cocamidopropyl Betaine	Mirataine BET C-30 (Rhodia)	10.00
J	Canola Oil	Rita Canola Oil (Rita)	10.00
	C12-15 Alkyl Benzoate	Finsolv® TN (Innospec)	2.00
K	Preservative, dye(s), fragrance		q.s.
L	Citric acid (50% solution)		q.s. to pH 5.0-6.0

Preparation Procedure

1. Dissolve the Natrlquest E30 in deionised water
2. Dissolve sodium chloride in deionised water system
3. With smooth mechanical agitation slowly blend Activsoft C-17 in water system. Mix until completely dispersed and uniform.
4. Slowly blend Miranol C2M Conc into system. Mix until uniform. Warm system to 50-60ºC with smooth mechanical agitation.
5. Slowly blend Pureact WS Conc into heated system and mix until completely dissolved.
6. In a separate mixing vessel combine Activsoft S and Glycerin. Mix into a soft slurry that is completely uniform. Slowly blend this pre-mix slurry into main system and mix until uniform.
7. Slowly blend Iselux® into system. Mix until uniform.
8. Slowly blend Aminol CM flakes into system. Mix until uniform, Remove heat.
9. Slowly blend Mirataine BET C-30 into system. Mix until uniform.
10. In a separate mixing vessel combine canola oil and Finsolv® TN. Mix until uniform and blend into main system with smooth agitation.
11. Add compatible fragrance, dye(s) and preservative.
12. Adjust pH of system to 5.0-6.0 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.

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