

## Technical Data Sheet of SorbiThix™ L-100

### Product Description

SorbiThix™ L-100 is an easy-to-use liquid non-ionic associative thickener for controlling the rheology of surfactant formulations, based on a patent-pending technology. It is consisted of an oleic acid ester of sorbeth-230, mild surfactants, and water. It is safe and non-irritating to skin and eyes, and it thickens very well the cleansing formulations which is comprised of mild and skin-friendly surfactants, such as amino-based surfactants and other sulfate-free surfactants.

### Legislation

- INCI Sorbeth-230 Tetraoleate(and) Decyl Glucoside (and) Sorbitan Laurate
- CAS # 63089-86-1 (and) 68515-73-1; 110615-47-9 (and) 1338-39-2
- EINECS Exempt (and) 500-220-1; 600-975-8 (and) 215-663-3

### General Product Specification

<u>Item</u>	<u>Specification</u>
Appearance	Translucent liquid
Odor	Mild, no offensive odor
pH in water/isopropanol solution	6.5 – 7.5
Bulk Viscosity of Product, 10 rpm, SP #4, 25C	8,000 – 16,000 cP
Dry Residue, 110C/3 hrs	72 - 76%
Residual Ethylene Oxide	< 1 ppm

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Residual 1,4-Dioxane	< 1 ppm
Heavy Metal	< 20 ppm
Total Aerobic bacteria count (sfu/g)	< 100
Total Mold and Yeast ( cfu/g)	< 100
Pathogen – E. Coli, P. Aeruginosa, S. Aureus	Not detectable

**Toxicological data:** RIPT and HET-CAM test in Progress

- Hen's Egg Test Chorioallantoic Membrane (HET-CAM) Test
  - The test method was based on that described in INVITTOX. 1992. Protocol No. 47: HET-CAM Test. This test is a non-animal test alternative to the Draize methodology. SorbiThix L-100 was tested as a 5% aqueous solution from a laboratory prepared lot with similar composition to the commercial lots.
  - The irritation potential of 5% SorbiThix L-100 was determined to have The Irritation Score (IS) of zero. Its irritation potential was classified as none/slight.
- Repeated Irritation Patch Test (RIPT Test) with 10% of SorbiThix L-100 on 50 subjects. It was not associated with skin irritation or allergic contact dermatitis in human subjects, and was "Dermatologist-Tested".

**Features/Benefits**

- Easy Manufacturing
  - Can be added in the heat-up or cool-down processing steps, or in post-manufacturing for remediating the viscosity of the final product
  - Liquid: Easy to handle and to pump
- Easy Formulation/product development

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- **Best thickening power** compared to the similar competitor's products, for all surfactant systems, especially for non-sulfate surfactants such as mild amino acid based surfactants, APG, SCI, etc.
- Synergy in thickening with salt and the common hydrophobic thickeners
- Nonionic: Compatible with all surfactant systems
- Neutral impact on foaming
- Great for developing a clear and high % perfume oil shampoo and shower gels

### **Suggested Applications**

Surfactant-based Personal Cleansing products:

- Shampoo, body washes, foam bath, facial cleanser, hand cleanser, liquid soaps, detergent gel, etc.

Hair care products:

- Hair treatment, Hair conditioners, Hair styling products, etc.

O/W Emulsion products, as co-emulsifier and thickener:

- Skin care lotions and creams

### **How to use it?**

- 0.5 – 5 % dosage. Add at any stage of processing before temperature cools down below 35C, and mix until dissolved completely.
- **Rescuing Production Batches** - there are two specific methods for boosting viscosity in batches that fail to meet specifications:

#### **Method 1:**

A) Mix in a pail or drum the Sorbithix L100 with a decyl glucoside APG surfactant at 40-45 C for 10-20 minutes until solution is clear.

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B) Add this blend into the tank and mix at 25C and above. The actual mixing time required depends on the size of tank, mixing equipments, and the temperature. At 25, it may take about 30 minutes. At 30 -35C, it takes much less time.

**Method 2:**

If you can warm the batch up to about 35C, you can add Sorbithix L-100 directly into the tank, and mix to the right viscosity. The amount of time it takes to dissolve the Sorbithix L-100 into the shampoo or shower gel depends on the tank geometry, size, and mixing equipments. That said, internal lab testing has shown that it can take as little as five minutes. \*\* dissolution rate depends greatly on temperature\*\*

- Suitable for pH 4.5 – 7

**Packaging**

200 kg in 55 gallon open head plastic drum. 18 kg in 5 gallon pail

**Storage**

- Store the product in its original package, sealed tightly, and avoid extremely low and high temperatures
- After each use, seal the package immediately and tightly to prevent it from drying.

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