

## Description

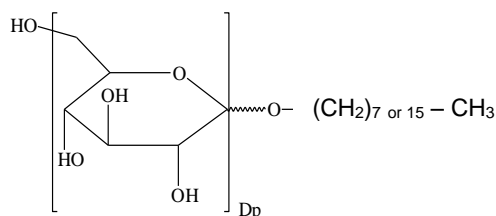
SIMULSOL SL 8 is a non-ionic surfactant prepared from glucose and C8-C10 fatty alcohols. It is composed of minimum 75 % bio-based ingredient. It is similar to SIMULSOL B 865 excepted solid content and color.

SIMULSOL SL 8 is a high foaming and detergent alkyl polyglucoside.

SIMULSOL SL 8 is widely compatible in concentrated electrolyte solution, strong alkaline medium and acid ones (pH>3).

SIMULSOL SL 8 surface activity is not affected by temperature (no cloud point) and it exhibits an excellent sustainable profile.

## Chemical formula



## Identity card

Analytical data	Standard limits	Method
Appearance 25°C	Limpid	S 52-180
Color (Gardner)	5 max	S 52 150
HLB	13.8	
Solid content	58 to 62%	S 52 034
pH	4 to 7	NFT 73-206
Viscosity at 25°C	700 – 1100 cP	LV M3 V60
Free alcohol (C10 alcohol)	2% max	S 52 239
Freezing point	-6°C	
Aerobic biodegradability	100% (28 days)	OCDE 301
Sea water biodegradability	61% (21 days)	OCDE 306
Shelf life	1095 days	
Labels/Lists	Suitable for Ecolabel DID listed CEFAS (gold rated) TSCA listed Dfe- US CleanGredients list	

In case SIMULSOL SL 8 is partly crystallized, heating at around 60°C will allow its revert to liquid form. Its freezing point is below -6°C.

- *Non ionic surfactant*
- *No cloud point*
- *Readily biodegradable*
- *Suitable for highly alkaline or electrolytic media*
- *Stable at all pH*
- *Easy to combine with all kind of surfactants even anionic & cationic*
- *Excellent solubilizing agent for perfumes, essential oils and surfactants*
- *CEFAS-OSPAR silver rated*
- *Suitable for Ecolabel formulations*

## Technical properties

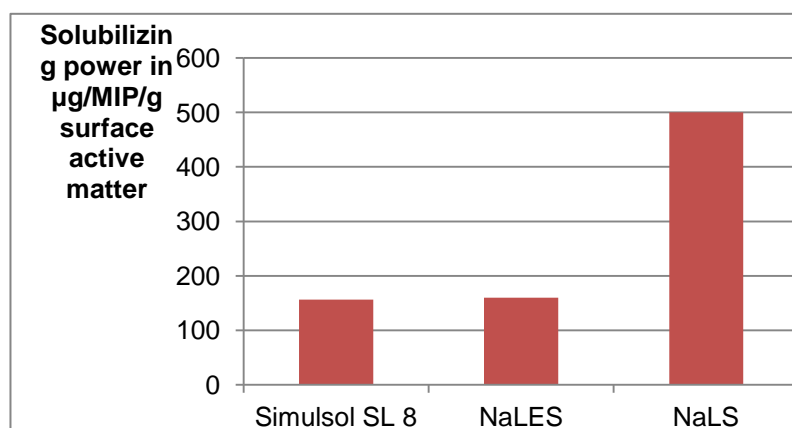
### 1- Hydrotropic effect

SIMULSOL SL 8 exhibits hydrotropic properties but the hydrotrope efficacy in a given application is highly dependent on structure as well as concentration.

SIMULSOL SL 8 & SIMULSOL SL 10 with intermediate alkyl chain length (octyl & decyl) are highly effective in elevating the cloud point of a solution with non ionic surfactant. This is also true for system containing non-ionic surfactants as well as electrolytes, where a smaller amount of SIMULSOL SL 8 is needed to clarify a cloudy solution compared to short or long-chain (Technical article Journal of Surfactants and detergents, Vol1, N°4, October 1998).

### 2- Solubilizing agent

SIMULSOL SL 8 is highly solubilizing.



**Method:** The solubilizing power has been determined using a method developed by SEPPIC (SEPPIC procedure 57 CO007). This consists of measuring the solubilizing effect of surfactants with respect to isopropyl myristate that has been linked with a lipophilic coloring agent in advance.

Unlike other non ionic surfactants, it does not reduce the foam but, conversely, promotes its formation.

SIMULSOL SL 8 is a highly effective solubilizing agent for essential oils and fragrances.

Its solubilizing properties have been assessed on various substances in comparison with a conventional solubilising agent: PEG-40 hydrogenated castor oil. Tests have been carried out on:

- 16 essential oils
- 6 synthetic aromatic products with an ester or alcohol structure
- 3 fragrances with different notes

Using the same amount of active substance, SIMULSOL SL 8 is comparable to ethoxylated hydrogenated castor oils, except with certain essential oils which are rich in alcohols (geranium, thyme, etc.).

In this context, the use of SIMULSOL SL 8 would appear to be of particular interest.

In addition, SIMULSOL SL 8 can also solubilize cationic surfactants (such as quaternium-82) to make clear formulas based on anionics. SIMULSOL SL 8 can therefore be used in the formulation of many different products containing cationic agents.

### 3- Foaming power

SIMULSOL SL 8 can be used in mild cleansing products.

It is moderately wetting and its cleansing action is comparable to that of NaLES, making it a mild cleansing agent.

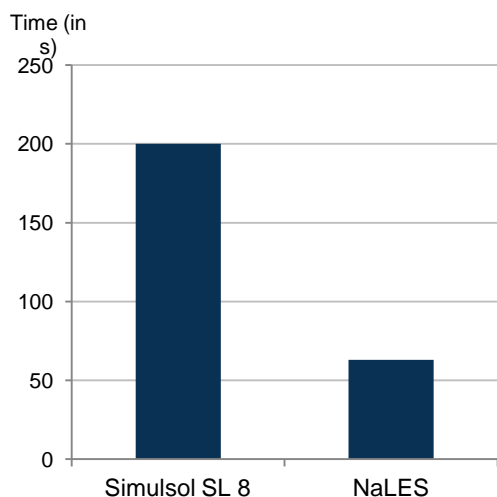
Foam volume and stability of a solution containing 1% dry extract SIMULSOL SL 8			
	Distilled water	Hard water	Hard water + soil
Foam volume (in mL)	550 mL	550 mL	320 mL
Stability after 5 min (in %)	90%	88%	82%

The foaming capacity of SIMULSOL SL 8 has been assessed using the Ross-Miles test (ISO 696-1975). SIMULSOL SL 8 produces a satisfactory foam volume, even in the presence of soil. The foam developed by SIMULSOL™ SL 8 is **fine** and **stable**.

However, its foam texture is not comparable to that obtained with anionics. That is why it is recommended that SIMULSOL SL 8 be combined with 2 to 5% conventional anionic surfactant in order to improve the texture of the foam developed. It could also be combined to SIMULSOL SL 26 for getting foam stability improvement.

#### 4- Wetting power

SIMULSOL SL 8 is not very wetting, which gives it its dermo-compatible character.

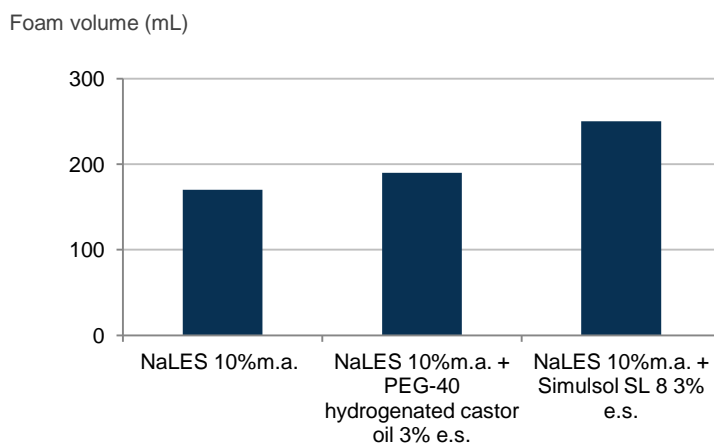


The wetting power has been measured using an in-house method (SEPPIC method 57CO002) adapted from procedure NFT 73-420 (amended ISO 8022 – 1990). SIMULSOL SL 8 was tested in comparison with NaLES. The tests were conducted at 25°C for concentrations of 0.1% active matter

#### 5- Foaming enhancer

Formulas that contain SIMULSOL SL 8 as a solubilizing agent develop higher foam volumes. In fact SIMULSOL SL 8 boots volume.

The foaming power of a surfactant solution was measured and compared to the foaming power of the same formula that contains 3% dry extract of solubilizing agent. Influence of SIMULSOL SL 8 on foam volume was compared to influence of an hydrogenated ethoxylated castor oil.



The foam volume developed by the formula containing SIMULSOL SL 8 is higher. SIMULSOL SL 8 boots foam volume more than classical solubilizing agents (hydrogenated ethoxylated castor oils).

## 6- Electrolytes resistance

SIMULSOL SL 8 is widely compatible in concentrated electrolyte solution, strong alkaline medium and acid ones (pH>3).

## Applications

- Crop protection products
- Household, Institutional & Industrial detergents:
  - Food processing
  - Metal cleaner
  - Oil degreaser
  - Hand and dishwashing liquids
  - Alkaline chlorinated detergent
  - Fine fabric cleaners
- Oil field: SIMULSOL SL 8 doesn't emulsify oil (drilling or stimulation operation).
  - Gas well production detergents
  - Enhanced Oil Recovery (EOR)
- Hydraulic fluids
- Wood treatment
- Light duty liquids
- Flotation
- Fire fighting foam
- Car care

## Instruction for use

SIMULSOL SL 8 is supplied in liquid form and it is easy to handle.

SIMULSOL SL 8 is stable over a wide pH range.

Non-ionic, SIMULSOL SL 8 is compatible with anionic, cationic, non-ionic and amphoteric surfactants.

SIMULSOL SL 8 is also compatible with antimicrobial agents such as chlorhexidine and quaternary ammoniums.

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