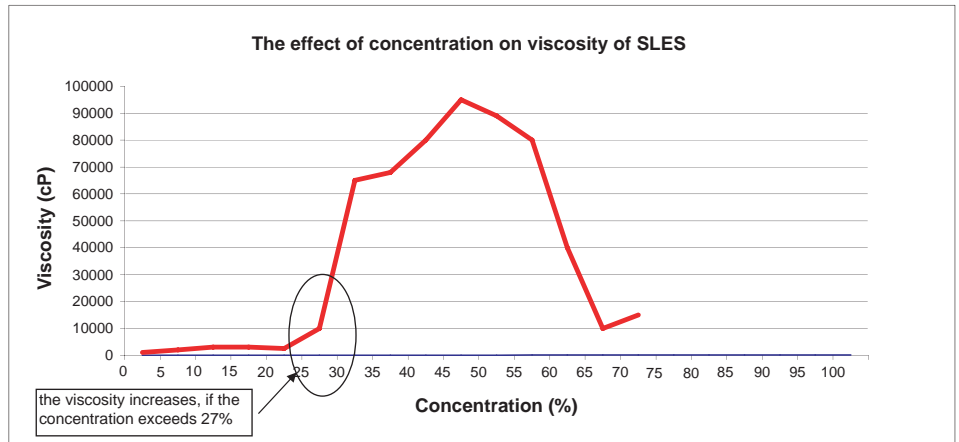


# SLES Dilution System



## Application

Sodium Laureth Sulfate (SLES) is used at a concentration of 26% for the production of shampoos, gels, soaps and other cleaning products. SLES is sold either at a concentration of 70% or already diluted at 26%. The following system offers the production of SLES with the adequate concentration of 26%, based on the concentrate and network water.



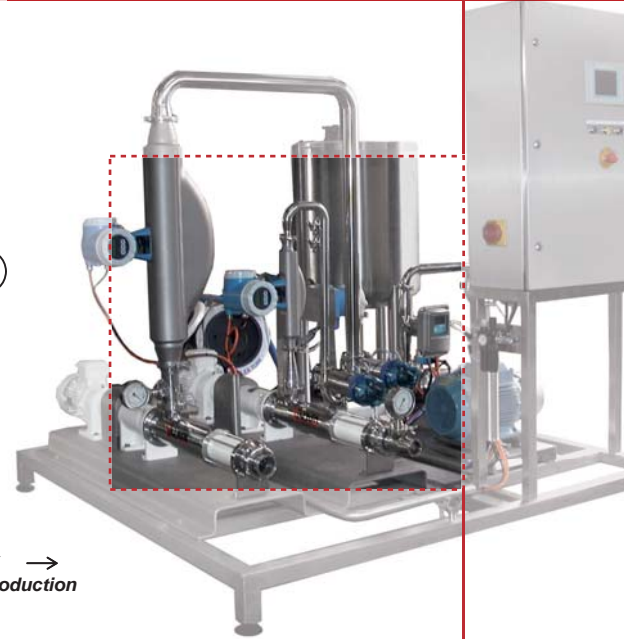
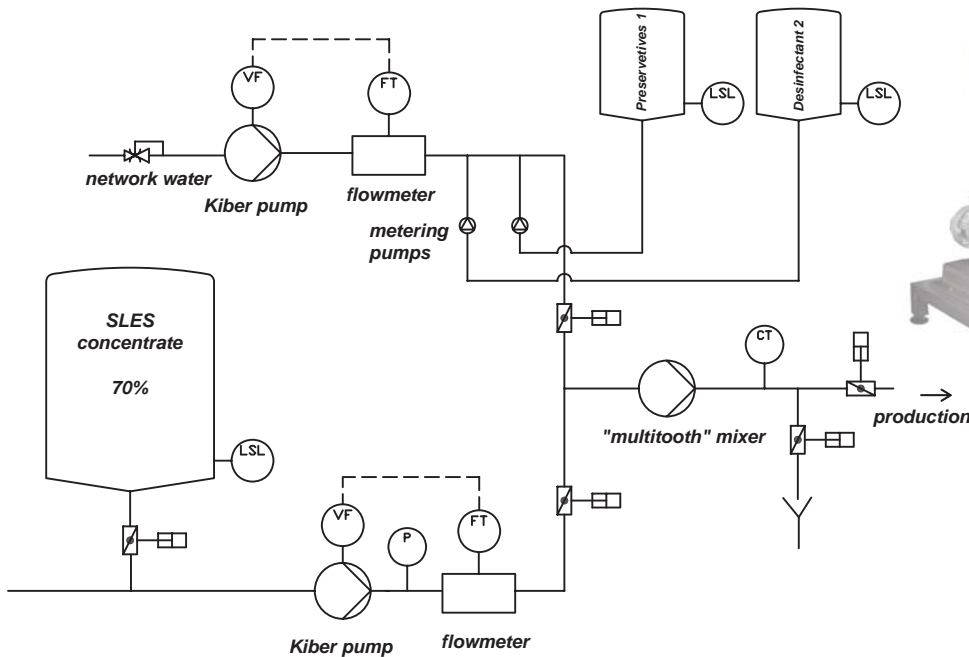
the viscosity increases, if the concentration exceeds 27%

The graph explains why the process is carried out with the indicated concentration of SLES. If the concentration exceeds 27%, the viscosity greatly increases and affects the right handling of the product.

The purchase of the concentrated raw material instead of a dissolved to 26% product allows savings in storage and transport costs.



## I Operating principle



The diagram explains the production process:

The SLES concentrate is delivered by a progressive cavity pump (Kiber) to a high shear "multitooth" mixer where it is diluted with water. A positive displacement pump is used as the viscosity of the product at a concentration of 70% is 10.000 cP.

The pump is controlled by a flowmeter that ensures a fixed flow rate regulating the speed of the pump by a frequency converter.

The network water is delivered to the "multitooth" mixer by a progressive cavity pump that owing to a flowmeter and frequency converter guarantees a constant flow. The preservatives and necessary additives are added to the water line by metering pumps.

The two products are diluted in the Mixer to the required SLES concentration.

## I Design and features

The concentration of the various ingredients is controlled by a PLC, frequency converters and flowmeters that regulate the pumps.

The performance range is from 4000 up to 10000 kg/h.

A conductivity tester after the mixer controls if the product is correct or not. Valves allow the product to pass to the production line or to drain.

The valves required are automated butterfly valves with pneumatic actuator and C-TOP control unit.

The system is supplied with a tank for preservatives.

As an option, a pH meter can be installed to control the concentration of the preservative and disinfectant.

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## I Materials

Parts in contact with the media	AISI 316 L
Other metallic parts and control panel	AISI 304
Stators of the progressive cavity pumps	black NBR according to FDA
Mechanical seal of the pump	C/Cer/NBR
Mechanical seal of the multitooth mixer	C/SiC/EPDM
Gaskets in contact with the media	EPDM (FDA)
Surface finish	Ra ≤ 0,8 µm



## I Technical specifications

Production unit for up to 10.000 kg/h of Sodium Laureth Sulfate (26%).  
For the network water: Kiber KS40 pump, 2,2 kW, 352 rpm at 50 Hz.  
Kiber KS 40 pump, 4 kW, 200 rpm at 50 Hz.

Mass flowmeters.  
Multitooth mixer ME 892X of 9,2 kW and 5000 rpm.  
Butterfly valves with single-acting pneumatic actuators with C-TOP control unit.  
Dosing piston pumps for preservatives.



## I Advantages

- Inline system prevents the formation of lumps.
- Product dilution avoiding aeration.
- Amortization of the equipment costs within a few months.
- Saving in the purchase of raw material.
- Saving in the storage of the raw material.
- Production strictly according to the final product specifications.
- Allows to carry out the process of dissolution straight from a tank vehicle avoiding storage of concentrate.



FT-ISO/SLES.1.EN-0906

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