Technical Information

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WF-No. 5103

Lutensol® CS 6250

® = Registered trademark of BASF in many countries.

Nonionic solubilisator for the chemical and allied industries

BASF
We create chemistry

Chemical nature Alcohol ethoxylate

PRD-No.* 30266583

* BASF's commercial product numbers.

Properties

Lutensol® CS 6250 is a clear, colorless liquid.

The most important properties of Lutensol® CS 6250 are listed in the table below.

Physical form (23 °C)		Liquid
Concentration	%	approx. 100
Cloud point (EN 1890)*		
Method A	°C	>100
Method B	°C	approx. 67
Method C	°C	approx. 49
Method D	°C	approx. 86
Method E	°C	approx. 82
pH value** (EN 1262, Solution B)		approx. 7
Density (DIN 51757, Method 1, (23 °C))	g/cm^3	approx. 1.00
Dropping point (DIN 51801)	°C	<5
Congealing point (ISO 2207)	°C	<5
Pour point (ISO 3016)	°C	approx. -23
Viscosity (EN 12092, Brookfield LVT)	mPa·s	
23 °C		aprrox. 20
60 °C		<20
Acid value (ISO 2114)	mg KOH/g	approx. 0.7
Saponification value (ISO 3681)	mg KOH/g	approx. 1
Surface tension*** (EN 14370, 1 g/l surfactant in distilled water, 23 °C)	mN/m	approx. 48

The above figures reflect the situation at the time of going to press and do not necessarily form part of the product specification.

The specified test characteristics are set out in the relevant product specification, which can be requested from the local BASF representative.

* *Cloud point according to EN 1890:*
Method A: 1 g of surfactant + 100 g of distilled water
Method B: 1 g of surfactant + 100 g of NaCl solution (c = 50 g/l)
Method C: 1 g of surfactant + 100 g of NaCl solution (c = 100 g/l)
Method D: 5 g of surfactant + 45 g of diethylene glycol monobutyl ether solution (c = 250 g/l)
Method E: 5 g of surfactant + 25 g of diethylene glycol monobutyl ether solution (c = 250 g/l)

** *The pH of Lutensol® CS 6250 can decrease during storage, but this does not have any effect on its performance.*

*** *Applying Harkins-Jordan correction.*

Solubility

Solubility of 10% solutions of Lutensol® CS 6250 at 23 °C

Distilled water	+
Potable water	+
Caustic soda, 5%	+
Hydrochloric acid, 5%	+
Sodium chloride, 5%	+
Mineral oil	+
Ethanol	+
Aromatic hydrocarbons	+

The above table shows the solubility of 10% solutions of Lutensol® CS 6250 at 23 °C.

+ = *clear solution*
± = *sparingly soluble (insoluble sediment)*
– = *insoluble (phase separation)*
o = *forms an opaque soluble, homogeneous emulsion*

For transportation and storage of Lutensol® CS 6250, it is important to know how its viscosity changes with temperature. The table below shows this relationship.

Viscosity

Viscosity as a function of temperature

Temperature °C	Viscosity (mPa·s)
0	approx. 60
10	approx. 40
20	approx. 25
30	<20
40	<20
50	<20
60	<20

Storage

a) Lutensol® CS 6250 should be stored in its original packaging, which should be kept tightly sealed, in a dry place. Storerooms must not be overheated.

b) Avoid a humid environment, because the product is hygroscopic and, being readily soluble in water, absorbs moisture immediately. For this reason, it is advisable to reseal drums tightly without delay each time material is taken from them.

c) The congealing points of Lutensol® CS 6250 must be taken into consideration when determining the storage temperature.

d) Lutensol® CS 6250 can become slightly cloudy if it is stored at low temperatures, but it has no effect on the product properties.
The cloudiness can be reversed at 50 – 60 °C.

e) Product that has solidified or that shows signs of precipitation should be heated to 50 – 70 °C and homogenized before use.

f) Product in drums that has solidified or that shows signs of precipitation should be melted or heated gently in a heating cabinet or heated chamber; the temperature should not exceed 50 – 70 °C, depending on the particular congealing or melting point. This also applies if electric drum heaters are used.
Internal electrical elements are unsuitable for heating owing to the high heat load in some places.

g) If Lutensol® CS 6250 is stored in heated tanks at 50 – 70 °C (depending on the particular congealing or melting point), care must be taken to ensure that it does not come into contact with air (blanket with nitrogen). Constant gentle stirring prevents it from overheating or becoming discolored as a result of prolonged contact with the heating elements or external heating jacket.

Materials

Tanks made of the following materials are suitable for storage of Lutensol® CS 6250:

a) V2A stainless steel (1.4541 or X6 CrNiTi 1810)
b) V4A stainless steel (1.4571 or X6 CrNiMoTi 17122)

Shelf life

Lutensol® CS 6250 has a shelf-life of at least 24 months, provided it is stored in its original packaging and kept tightly sealed.

Safety

We know of no ill effects that could have resulted from using Lutensol® CS 6250 for the purpose for which it is intended and from processing it in accordance with current practice. According to the experience we have gained over many years and other information at our disposal, Lutensol® CS 6250 does not exert any harmful effects on health, provided that it is used properly, due attention is given to the precautions necessary for handling chemicals, and the information and advice given in our Safety Data Sheets are observed.

Labelling

Please consult the current Safety Data Sheets for information on the classification and labelling of our products and other information relevant to safety.

Note

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