Technical Information

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Disponil® BES 20

® = Registered trademark of BASF in many countries.

Anionic surfactant used as alternative for alkylphenol ethersulfates in emulsion polymerization.

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Chemical nature

Disponil® BES 20 is an alkyl ether sulfate, sodium salt based on a iso-tridecanol.

The general formula is described as follows:

$$RO(CH_2CH_2O)_xSO_3Na$$

R(BES) = i-C_{13}
X = 20

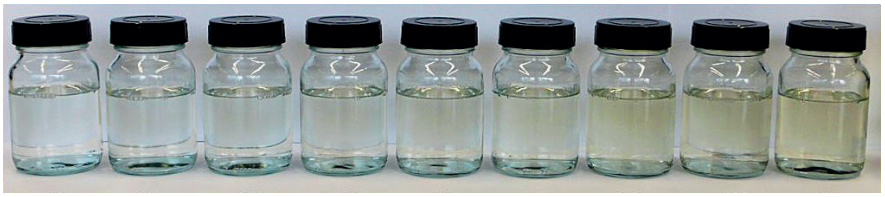
PRD-No.*

30535680

* BASF's commercial product numbers.

Appearance

Disponil® BES 20 is a colorless to slightly yellow liquid.



10 20 30 40 50 60 70 80 90

ISO 6271, HAZEN/APHA, 250 ml wide-necked bottle [mg Pt/l]

Handling and Storage

Handling

a) The storage temperature of Disponil® BES 20 should not be allowed to exceed 40 °C.
b) The product is not destroyed by freezing. When stored below the cloud point, it will begin to crystallize and become inhomogeneous/solid which could make it impossible to pump.
c) Liquid that has solidified or that shows signs of sedimentation should be heated to max. 50 °C (max 24 h) and homogenized before it is processed. Please mix sufficiently prior to use.
d) Drums that have solidified or that have begun to precipitate should be reconstituted by gentle heating, preferably in a heating cabinet. The temperature must not be allowed to exceed 50 °C. Please mix sufficiently prior to use. This also applies if drums are heated by external electrical elements. Internal electrical elements should not be used because of the localized anomalies in temperature that they cause.
e) It is recommendet to cover Disponil® BES 20 with nitrogen if it is stored in heated tanks at approx. 40 °C to prevent it from coming into contact with air. Constant, gentle stirring helps to prevent it being damaged as a result of prolonged contact with electrical elements or external heating coils.
f) Overheated product may hydrolyze, which will cause irreversable destruction of the product.
g) Please refer to the latest Safety Data Sheet for detailed information on product safety.

Materials

The following materials may be used for the storage of Disponil® BES 20:
a) HDPE
b) Stainless steel 1.4401
c) Stainless steel 1.4541
d) Stainless steel 1.4571

Shelf life

Disponil® BES 20 contains methylisothiazolinone (~ 75 ppm MIT) and benzisothiazolinone (~ 150 ppm BIT). Disponil® BES 20 has a shelf life of at least 12 months in its original packaging, provided it is stored properly.

Properties

Some physical properties are listed in the table below. These are typical values only and not all of them are monitored on a regular basis. They are correct at the time of publication and do not necessarily form part of the product specification. A detailed product specification is available on request or via BASF's WorldAccount: https://worldaccount.basf.com (registered access).

Disponil® BES 20	**Unit**	**Value**
Degree of ethoxylation	n EO	~20
Physical form (23 °C)		liquid
Dry residue, salt corrected (active matter, internal method 94005301)	%	~29
pH value (20 °C, 10%, EN 1262)		~7.5
Sodium sulfate (DGF H-III 8A)	%	~0.4
Pour point (DIN ISO 3016)	°C	<0
Density (DIN 51757, 23 °C)	g/cm^3	~1.06
1,4-dioxane (Headspace-GC)	ppm	<150
Surface tension, static (1% active substance, 25 °C, EN 14370)	mN/m	~43
Critical micelle concentration (25 °C, EN 14370)	g/L*	~0.5

** Active substance*

Solubility

Due to his anionic structure, Disponil® BES 20 alkyl ethersulfate is readily soluble in demineralized water.

Application

Due to its structure, Disponil® BES 20 combines the typical properties of an anionic surfactant with the advantages of a nonionic stabilizer.

It is especially recommendet to be used in styrene-acrylic- and polyacrylic emulsions, but is also suitable for more hydrophilic systems like vinylacetate homo- and co-polymers.

Disponil® BES 20 may be used as sole surfactant, but as well in combination with other anionic surfactants or with nonionic emulsifiers of the Disponil® A-, AFX-, Lutensol® AT-, AO-, TO-, XP or XL-types.

The typical concentration depends on the kind and amount of monomers and is usually in the range of 0.5 – 3% based on monomers.

Safety

We are not aware of any ill effect that can result from using Disponil® BES 20 for the purpose for which it is intended and from processing it in accordance with current practices.

According to the experience that we have gained over many years and other information at our disposal, Disponil® BES 20 does not exert harmful effects on health, provided 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.

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