

Demelan® AU-39/Bio

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in many countries.

Mixture of quaternized ethoxylated fatty oil and ethoxylated fatty amine.



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Chemical nature

Demelan® AU-39/Bio is a mixture of quaternized ethoxylated fatty oil and ethoxylated fatty amine.

PRD-No.*

30534753

* BASF's commercial product numbers.

Appearance

Demelan® AU-39/Bio is a clear, viscous, reddish till brown liquid at room temperature and tends to become cloudy and form sediment in the coldness. Demelan® AU-39/Bio becomes clear liquid at approx. 40 °C. Demelan® AU-39/Bio shows a typical and characteristic amine-odor.

Handling and Storage**Handling**

- a) Demelan® AU-39/Bio should be stored indoors in a dry place. Storage rooms must not be overheated.
- b) Demelan® AU-39/Bio is hygroscopic due to its good solubility in water, with the result that it may absorb moisture very quickly. Drums must be resealed each time they are opened.
- c) Demelan® AU-39/Bio is a clear, reddish till brown liquid and tends to become cloudy and form sediment in the coldness, it becomes a clear liquid at approx. + 40 °C.
- d) Liquid that has solidified or that shows signs of sedimentation should be heated to max. + 40 °C and homogenized before it is processed. Please mix sufficiently prior to use!
- e) 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 max. + 40 °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.
- f) Demelan® AU-39/Bio must be blanketed with nitrogen if it is stored in heated tanks (at max. + 40 °C) to prevent it from coming into contact with air. Constant, gentle stirring helps to prevent it being discolored as a result of prolonged contact with electrical elements or external heating coils.
- g) Please refer to the latest Safety Data Sheet for detailed information on product safety.

Materials

Demelan® AU-39/Bio should be stored in tanks made from the following materials:

- a) Stainless steel 1.4541 – AISI 321 stainless steel (X6 CrNiTi 1810)
- b) Stainless steel 1.4571 – AISI 316 Ti stainless steel (X6 CrNiMoTi 17122)
- c) Stainless steel 1.4306 – AISI 321 L stainless steel (X2 CrNi 1911)

Shelf life

Provided it is stored properly and drums are kept tightly sealed, Demelan® AU-39/Bio has a shelf life of at least 12 months in its original packaging.



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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).

Demelan® AU-39/Bio	Unit	Value
Physical form (23 °C)		liquid
Active content (100% - water content)	%	approx. 98
Water content (EN 13267)	%	approx. 2
pH value (EN 1262, Solution B)*		approx. 9
Density (DIN 51757, method 3)		
23 °C	g/cm ³	approx. 1.05
40 °C	g/cm ³	approx. 1.04
Pour point (ISO 3016)	°C	approx. -25
Viscosity (EN 12092, Brookfield, LVT)		
23 °C	mPa·s	approx. 850
40 °C	mPa·s	approx. 300
Flashpoint (EN ISO 2719)	°C	approx. 170
Color Gardner (EN 1557, 23 °C)		max. 10
Surface tension (EN 14370, 1 g/L in distilled. water, 23 °C)**	mN/m	approx. 36

* The pH value of Demelan® AU-39/Bio can decrease during storage, but this does not have any effect on its performance.

** Applying Harkins-Jordan correction.

Solubility

Details on the solubility of Demelan® AU-39/Bio in various solvents are given in the table below:

Solubility of Demelan® AU-39/Bio (10% at 23 °C)

Distilled water	+
Potable water (2.7 mmol Ca ²⁺ -Ions/l)	+
Caustic soda (5%)	+
Hydrochloric acid (5%)	+
Salt solution (5%)	+
Solvent naphtha	-
Ethanol, Isopropanol	+
Aromatic hydrocarbons	○

+= clear solution

- = insoluble (phase separation)

○ = forms an opaque soluble, homogeneous emulsion



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Viscosity

The relationship between viscosity and temperature is always an important point to consider when Demelan® AU-39/Bio is stored or shipped. This is shown in the following table (mPa·s, Brookfield LVT):

Temperature (°C)	Viscosity (mPa·s)
0	5500
10	2300
20	1050
23	850
30	500
40	300
50	170
60	120

We would recommend the preparation of 10 – 25% stock solutions of Demelan® AU-39/Bio if it is to be used in the form of very dilute solutions, or if it is to be added to other solutions. This makes it very much easier to dilute it later on.

Demelan® AU-39/Bio can form fairly stiff gels at certain concentrations when water is added. The figures below were measured using a Brookfield-Viscosimeter at 23 °C and 60 rpm.

The viscosity of Demelan® AU-39/Bio at 23 °C as a function of concentration in water

Water addition (%)	Viscosity (mPa·s)
0	850
10	450
20	375
30	400
40	300
50	125
60	40
70	<20
80	<20
90	<20

The numbers reported have to be regarded as maximum values; the values measured immediately after mixing will be lower than the numbers reported.



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Safety

We are not aware of any ill effect that can result from using Demelan® AU-39/Bio 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, Demelan® AU-39/Bio 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.

Labeling

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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May 2016



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