
Technical Information

Agnique® SPO 40

Oil soluble emulsifier and co-adjuvant for plant protection applications.

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08_130221e-01/Page 1 of 5

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We create chemistry

Chemical nature Ethoxylated sorbitol ester

PRD-No.* 30535565

* BASF's commercial product numbers.

Appearance Agnique® SPO 40 is an amber liquid.

Handling and Storage

Handling

- a) The Agnique® SPO 40 should be stored indoors in their original packaging, which should be kept tightly sealed. Storerooms must not be overheated.
- b) They are hygroscopic and readily soluble in water, with the result that they absorb moisture very quickly. Drums must be resealed each time they are opened.
- c) Agnique® SPO 40 can become slightly cloudy if it is stored at low temperatures, but this has no effect on their performance. This cloudiness can be dissipated by heating them to 50 – 60 °C.
- d) Liquid that has solidified or that shows signs of precipitation should be heated to approx. 50 – 70 °C and rehomogenized before it is processed.
- 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 50 – 70 °C. 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) Agnique® SPO 40 must be blanketed with nitrogen if it is stored in heated tanks at 50 – 70 °C to prevent it from coming into contact with air. Constant, gentle stirring helps to prevent it being discoloured as a result of prolonged contact with electrical elements or external heating coils.
- h) Please refer to the latest Safety Data Sheet for detailed information on product safety.

Materials

Agnique® SPO 40 should be stored in tanks made from the following materials.

- a) Stainless steel 1.4541 – AISI 321 (X6 CrNiTi 18-10)
- b) Stainless steel 1.4571 – AISI 316 Ti (X6 CrNiMoTi 17-12-2)

Shelf life

Provided they are stored properly and drums are kept tightly sealed, the Agnique® SPO 40 has a shelf life of at least two years in their original packaging.

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).

Agnique® SPO 40	Unit	Value
Delivery form (23 °C)		liquid
Active matter (100%-water content)	%	approx. 99.5
Water content (EN 13267)	%	<0.5
Hydroxyl number (DIN 53240)	mg KOH/g	approx. 30
Saponification value (ISO 3681)	mg KOH/g	approx. 100
Acid value (ISO 4314)	mg KOH/g	<10
pH value (EN 1262, 5% in wather)		approx. 7
Density (DIN 51757, 23 °C)	g/cm ³	approx. 1.02
Pour point (ISO 3016)	°C	approx. -25
Surface tension (EN 14370, 1 g/L distilled water, 23 °C)*	mN/m	approx. 40
Foam formation (EN 12728, pg. 1, 40 °C, 2 g/L water at hardness of 1.8 mmol Ca-ions/L, after 30 s)	cm ³	approx. 20

* Corrected value (according to Harkins-Jordan)

Solubility

The following table gives an overview of the solubility of Agnique® SPO 40 in various solvents (solubility 10% at 23 °C).

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

+ = clear solution

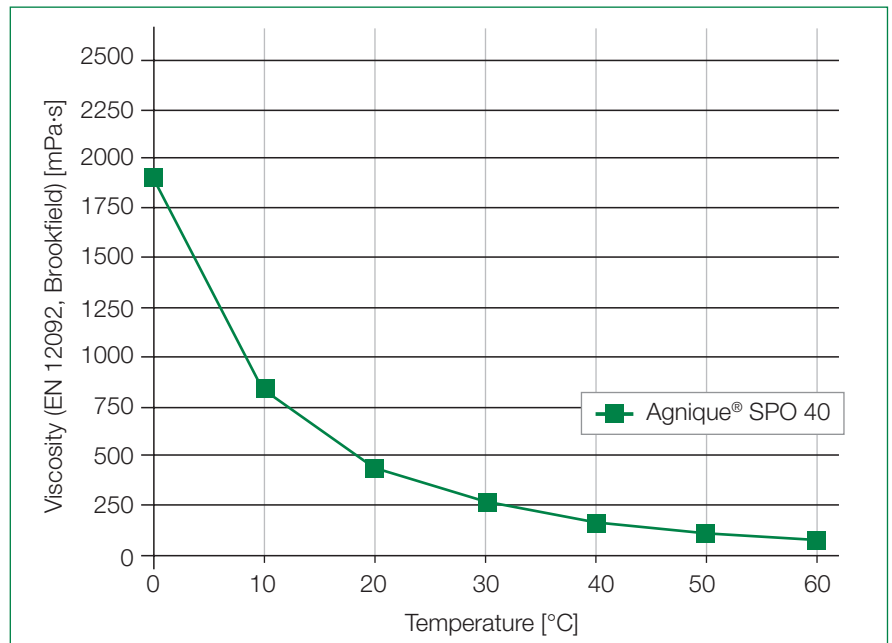
± = sparingly soluble (insoluble sediment)

– = insoluble (phase separation)

○ = forms an opaque soluble, homogeneous emulsion

Viscosity

The relationship between viscosity and temperature is always an important point to consider when Agnique® SPO 40 is being stored or transported. This is shown in the following graphic chart.



Viscosity according to the temperature.

Viscosity of Agnique® SPO 40 after addition of Water (23 °C, Brookfield LVT, all data in in mPa·s)

Water addition (%)	Viscosity
+ 10	950
+ 20	>10 ⁵
+ 30	>10 ⁵
+ 40	>10 ⁵
+ 50	>10 ⁵
+ 60	8500
+ 70	5500
+ 80	4500
+ 90	1700

Safety

We are not aware of any ill effect that can result from using Agnique® SPO 40 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, Agnique® SPO 40 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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