Technical Information
Oilfield Chemicals

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Basoflux® PI 3120

Paraffin inhibitor for crude oil

Description

Basoflux® PI 3120 is a polyacrylate that is modified with Behenyl carbon chains and dissolved in an aliphatic mineral spirit.

Principal Uses

Basoflux® PI 3120 is primarily used as a paraffin inhibitor or rheology improver in the crude oil production segment, and aims to reduce the crude oil pour point, inhibit paraffin deposition, and/or lower the yield stress of the crude oil.

While conducting pour point testing, it is highly recommended to dose the paraffin inhibitor into the crude oil sample above the wax appearance temperature (WAT).

The paraffin inhibitor treat rate is crude oil dependent, typically ranging from several hundred ppm to greater than 2000 ppm for more challenging and highly paraffinic crude oils.

When melted, Basoflux® PI 3120 is a low viscosity product. In addition, the product has a higher flash point than Toluene and Xylene, resulting in less hazardous handling.

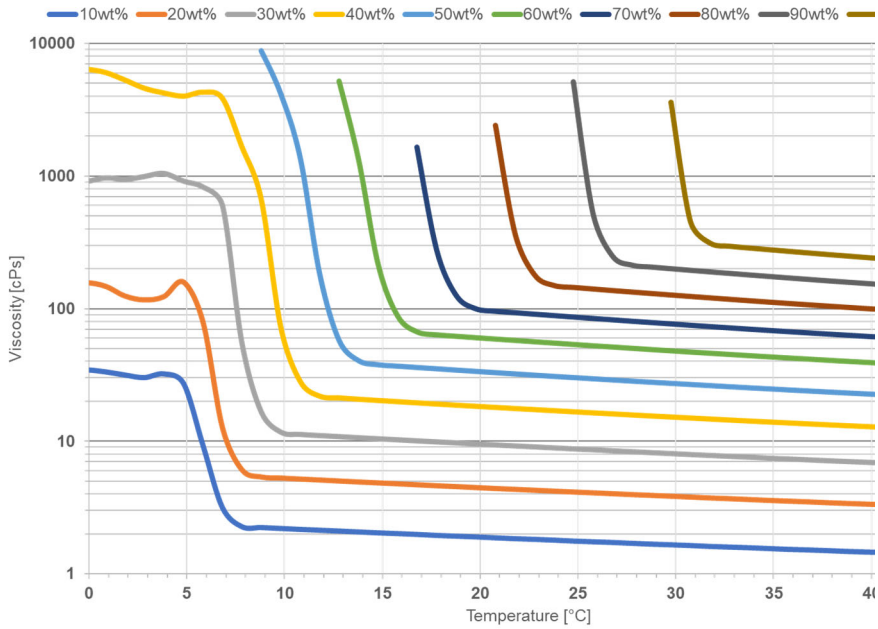
Typical properties

Appearance at 23°C:	Amber solid
Relative molecular weight	High
Relative chain length	C_{22+}
Active concentration (%)	50%
Density (g/cm³)	Approx. 0.9
Viscosity (mPa.s @ 40°C)	240
Melting point (°C)	~37°C
Pour point (°C)	~32°C
Flash point (°C):	> 61°C
Organic solvent	Shellsol D70

Application

Basoflux® PI 3120 can be applied in the field by dilution with typical solvents such as naphtha based aromatic solvents, Xylene or Toluene, but also aliphatic mineral spirits.

The viscosities using Xylene are displayed in the graph below.



Solubility & Stability

Solubility behaviour of the Basoflux® PI 3120 after 28 days is displayed below with respect to time, temperature, and dilution factor.

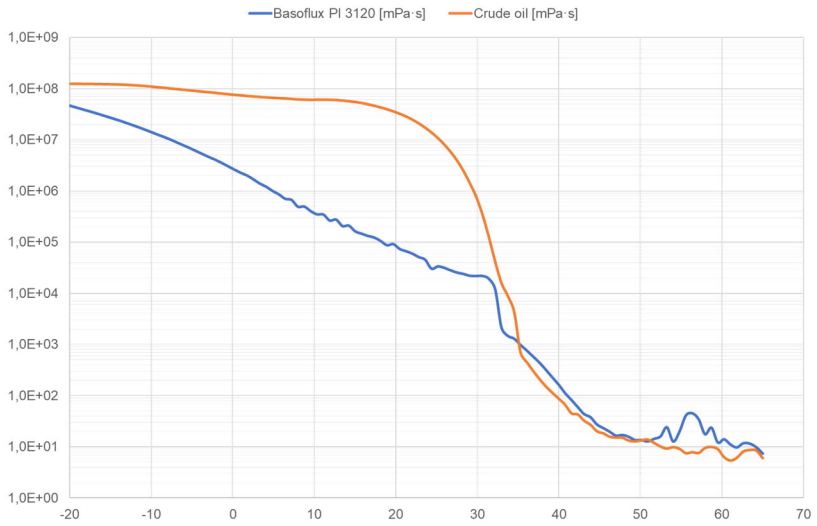
Legend: S: solid, L: liquid,

Product	Solvent	Xylene			Solvesso 150 ND		
[%]	[%]	4°C	25°C	40°C	4°C	25°C	40°C
100	0	S	S	L	S	S	L
80	20	S	S	L	S	S	L
70	30	S	S	L	S	S	L
60	40	S	L	L	S	S	L
50	50	S	L	L	S	S	L
40	60	S	L	L	S	L	L
30	70	S	L	L	S	L	L
20	80	S	L	L	S	L	L
10	90	S	L	L	S	L	L

Performance

Basoflux® PI 3120 performance has been extensively tested in the laboratory and has been selected for various applications, mostly in combination with other Basoflux® paraffin inhibitors to benefit from the synergistic effects.

Performance as flow improver



Basoflux® PI 3120 paraffin inhibitor performance on a difficult to treat crude oil sample provided by a service company. The customer challenged BASF to develop a better performing flow improver than the incumbent.

Performance as PPD in crude oil

Sample	Dosage, Product [ppm]	NFP Ø [°C]	Δ NFP [°C]	PP [°C]
Blank	0	24,1		27
Basoflux PI 3120	1000	15,5	8,6	18

Basoflux PI 3120 reduced the pour point from 27°C to 18°C in the crude oil.

Storage

Store in unopened original containers in a well-ventilated place.
Keep container dry.

Shelf life

Basoflux® PI 3120 is stable for approx 36 months in its original sealed packaging

Shipping

Basoflux® PI 3120 is available in 200-liter steel drums or in 20-tons bulk ISO containers. Other packaging can be considered subject to discussion.

When shipped in ISO containers these should be equipped with heating possibilities.

Handling

Basoflux® PI 3120, when at low ambient temperature and in solid state, can be melted by heating the product. Heating can be carried out either (1) in a water bath at ~70 °C, (2) in a heated room (40 to 50 °C) or (3) with a heating jacket. Exposure of Basoflux® PI 3120 to prolonged and excessive heat may cause product deterioration.

Health & Safety

Please refer to the Safety Data Sheet (SDS) for detailed information concerning product's hazards and appropriate protective measures in the workplace

Technical service

Advice and assistance in the application and performance of Basoflux® PI 3120 is available from BASF experienced in oilfield representatives.

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

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