Technical Information

Sokalan® CP 5

Maleic acid/acrylic acid copolymer, Na-salt.

August 2018 | Supersedes issue dated January 2017 | Last change WF-No. 15932

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Chemical Character	Aqueous solution of a copolymer based on maleic acid and acrylic acid, Na-salt.
PRD-No.*	30042761 * BASF's commercial product numbers.
Appearance	Sokalan® CP 5 is a clear, rarely slightly cloudy, colorless to yellowish liquid at room temperature and tends to form sediment in the coldness.

Handling and Storage

Handling ONLY packaged goods

a) Sokalan® CP 5 should be stored in a dry place in its original sealed packaging.

b) Sokalan® CP 5 can slighty separate during the storage time. The product must be homogenized before it is processed. It must be mixed sufficiently prior to use.

c) The storage temperature must be between min. +5 °C and max. +25 °C. At low temperatures (approx. +5 °C) Sokalan® CP 5 forms crystals and becomes solid. Drums or IBCs containing solidified product or liquid that have begun to precipitate or separated should be reconstituted by gentle heating, preferably in a heating cabinet.
Warming up to max. +25 °C allows the product to become liquid again. It must be mixed 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 can cause.

d) Sokalan® CP 5 must be protected from sunlight and high temperatures to avoid discoloration and the formation of surface films.

e) Sokalan® CP 5 must be blanketed with nitrogen if it is stored to prevent air contact. Air contact can cause discoloration.

f) Please refer to the latest Safety Data Sheet for detailed information on product safety.

Handling ONLY bulk containers

a) The storage temperature for bulk product must be between min. +40 °C and max. +60 °C.
Storage temperatures above +60 °C cause an increase of the color number. At low temperatures (approx. < +5 °C) Sokalan® CP 5 forms crystals and becomes solid.

b) Sokalan® CP 5 can slighty separate during the storage time. The product must be homogenized before it is processed. It must be mixed sufficiently prior to use.

c) Sokalan® CP 5 must be protected from high temperatures (> +60 °C) to avoid discoloration and the formation of surface films.

d) Sokalan® CP 5 must be blanketed with nitrogen if it is stored in heated tanks (at max. +60 °C) to prevent air contact. Air contact can cause discoloration. Constant, gentle stirring helps to prevent it being discolored as a result of prolonged contact with electrical elements or external heating coils.

e) Please refer to the latest Safety Data Sheet for detailed information on product safety.

Recommendation for Pump and Piping Equipment

1) Sealing and pipelines e.g.:
Aramide fibre with special nitrile rubber (NBR)-binders (AFM 34)

2) Pump e.g.:
Gear Pump (positive displacement)
Constructional material: Stainless steel for the housing/casing
Plain/antifriction gearing made from tungsten carbide with Ni-binders or made from silicon carbide

Output/Capacity:	up to 50 m³/h
Static head:	60 m

3) Pump sealing e.g.:

Type:	
Metallic parts:	stainless steel
Slip rings on the product side:	tungsten carbide or silicon carbide
O-rings on the product side:	Viton, double, PTFE coated
Slip rings on the atmospheric side:	carbon/cast chrome steel
O-rings on the atmospheric side:	Viton
Interlock medium:	Water/Glysantin®

4) Discharching temperature: approx. 60 °C

5) Level indication: Pressure difference measurement

Materials

The following materials can be used for tanks and drums:
a) Stainless steel 1.4541 – AISI 321 (X6 CrNiTi 18-10)
b) Stainless steel 1.4571 – AISI 316 Ti (X6 CrNiMoTi 17-12-2)
c) Stainless steel 1.4306 – AISI 304 L (X2 CrNi 19-11)
d) HDPE – high density polyethylene
e) LDPE – low density polyethylene

It is not recommended to store Sokalan® CP 5 in plain carbon steel, because this would cause significant discoloration of the product within a short period of time.

Shelf life

Sokalan® CP 5 has a shelf life of at least 24 months in its 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).

Sokalan® CP 5	**Unit**	**Value**
Physical form (25 °C)		Liquid
Concentration (dry content) (ISO 3251, 0.25 g, 150 °C, 2 h)	%	approx. 40
Average molar mass, Mw GPC (BASF method)	kg/mol	approx. 70
K-value (ISO 1628-1, 1% dry substance in dist. water)	%	approx. 55
pH value (DIN 19268, 25 °C, 10% dry substance in dist. water)		approx. 8
Viscosity (ISO 2555, Brookfield RVT, 25 °C, as is, Spindle 3, 30 rmp)	mPa·s	approx. 2000
Density (DIN 51757, method 3) 25 °C 40 °C	 g/cm³ g/cm³	 approx. 1.30 approx. 1.29
Color APHA (EN 1557, 25 °C)		max. 200
Water content (= 100% – concentration (dry content))	%	approx. 60
Solubility (visual, 23 °C, 10% dry substance in dist. water)		clear
Pour point (ISO 3016)	°C	approx. - 10
Calcium carbonate dispersion capacity (23 °C, pH 11)	mg $CaCO_3$/g dry substance	approx. 290
Calcium carbonate dispersion capacity (60 °C, pH 11)	mg $CaCO_3$/g dry substance	approx. 280
Residual Na-acrylate (calculated as acrylic acid) (HPLC BASF method)	%	max. 0.010
Residual Na-maleate (HPLC BASF method)	%	max. 0.20

Viscosity

The viscosity of Sokalan® CP 5 is mainly influenced by the concentration. Figure 1 shows the differences in viscosity as a function of the concentration.

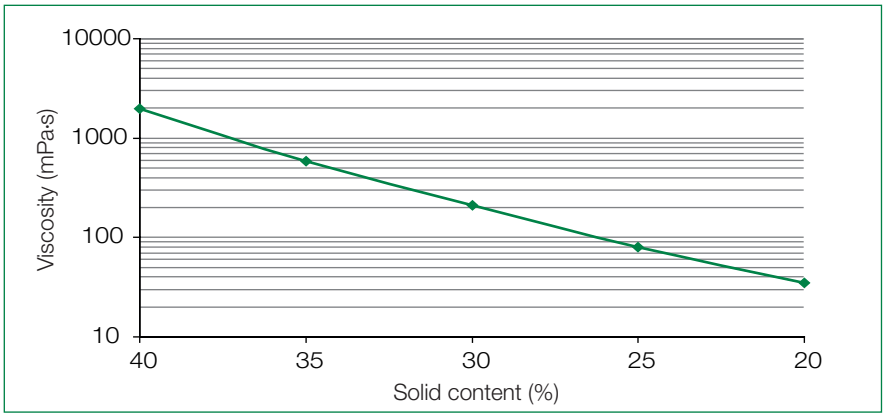

Figure 1: Viscosity of Sokalan® CP 5 at different concentrations at 23 °C

In terms of impact of temperature on the viscosity figure 2 indicates this behavior for Sokalan® CP 5.

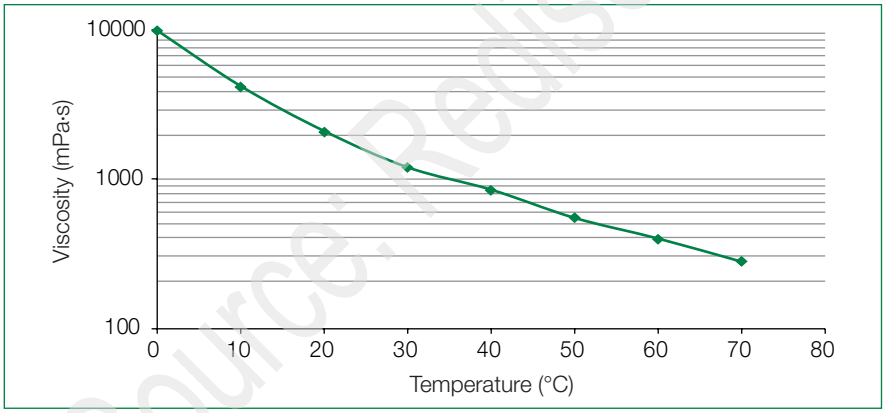

Figure 2: Viscosity of Sokalan® CP 5 at temperatures between 0 – 70 °C

Safety

We are not aware of any ill effect that can result from using Sokalan® CP 5 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, Sokalan® CP 5 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

Details about the classification and labelling of our products and further advice on safe handling are contained in the current safety data sheets.

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August 2018