

® = Registered trademark of BASF
in many countries.

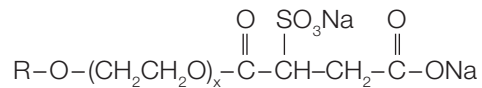
Disponil® SUS 87 Spez.

Mono-alkyl sulfosuccinate, sodium salt for the chemical industry and emulsion polymerization

Chemical nature

Disponil® SUS 87 Spez. is a mono-alkyl sulfosuccinate, sodium salt for the manufacture of low particle size polymer emulsions.

The general formular is described as follows:

**PRD-No.***

30531411

* BASF's commercial product numbers.

Appearance

Disponil® SUS 87 Spez. is colorless to slight yellowish liquid.

Handling and Storage**Handling**

- a) The storage temperature of Disponil® SUS 87 Spez. should not be allowed to exceed 40 °C.
- b) The product is not destroyed by freezing. When stored below the pour point, it will begin to crystallize and become inhomogeneous/solid which could make it impossible to pump it.
- c) Liquid that has solidified or that shows signs of sedimentation should be heated to max. 50 °C (max 24h) 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 recommended to cover Disponil® SUS 87 Spez. 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.

Materials

The following materials can be used for tanks and drums:

- a) HDPE
- b) Stainless steel 1.4401, 1.4541, 1.4571

Shelf life

Disponil® SUS 87 Spez. contains methylisothiazolinone (MIT: ~50 ppm) and benzisothiazolinone (BIT: ~50 ppm) and has a shelf life of 12 months provided it is stored properly and drums are kept tightly sealed.

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® SUS 87 Spez.	Unit	Value
Physical form (23 °C)		liquid
Dry residue (Internal method 00044201)	%	~ 30.5
pH-value (EN 1262, 20 °C, 10%)		~ 5.5
Sodium sulfate (DGF H-III 8a)	%	~ 0.2
Pour point (ISO 3016)	°C	< 5
Viscosity (ISO 2555) bei 20 °C bei 40 °C	mPa·s mPa·s	~ 30 ~ 15
Density (DIN 51757, 20 °C)	g/cm ³	~ 1.09
Surface tension, static (EN 14370, 25 °C, 1% aktiv)	mN/m	~ 39
Surface tension, static (EN 14370, 25 °C, 0.5% t.q.)	mN/m	~ 28

Solubility

Disponil® SUS 87 Spez. is readily soluble in water.

Application

I. Polymerization of ethyl acrylate, methyl methacrylate

M1	379.0	p.b.w.	Water, desalinated
	39.0	p.b.w.	Disponil® SUS 87 Spez.
	15.0	p.b.w.	Disponil® AFX 2075
	2.0	p.b.w.	Potassium peroxodisulphate
M2	100.0	p.b.w.	Sodium di-sulfit, 2% in water
M3	320.0	p.b.w.	Ethyl acrylate
	140.0	p.b.w.	Methyl methacrylate
	5.0	p.b.w.	Acrylic acid
	1,000.0	p.b.w.	Polymer dispersion
	approx. 5.0	p.b.w.	Ammonia, 25% solution

Equipment

Reaction vessel with two feeding devices; reflux condenser

Process

- Charge M1 to the reactor, flush reactor with nitrogen and heat to 70 °C.
- Add 5% of the quantity of M3 and M2 at 70 °C.
Polymerization starts immediately (reaction is exothermic).
- Dosage of M3 and M2 at 75 °C for 1 to 1.5 hours.
- Post-polymerization for approximately 1 hour at 80 to 85 °C.
- Cooling to < 30 °C .
- pH-value adjustment with ammonia, 25% solution to 6 – 7 pH

Technical data of the polymer dispersion

Particle size	0.1 – 0.5 µm
Solid content	49 – 50%
pH-value	6 – 7
Mechanical stability (Klaxon – shear test)	30 min. containing no coagulates
Electrolyte stability	good
Storage stability	good
Application	Protective coatings

II. Copolymerisate from vinylacetate and Veo Va 10 (70:30)

Reactor	250.0 g	Water, desalinated
	5.0 g	Disponil® SUS 87 Spez.
	0.5 g	Potassium peroxodisulphate
	0.5 g	Borax (pH-value inside the reactor 7 – 8)
Mixture I	238.5 g	Water, desalinated
	3.0 g	Disponil® SUS 87 Spez.
	14.5 g	Disponil® A 3065
	2.0 g	Potassium peroxodisulphate
	2.0 g	Borax
Mixture II	334.0 g	Vinylacetate
	141.0 g	Veo Va 10
	4.0 g	Acrylic acid
	5.0 g	FoamStar® PB 2724 (pH-value pre-mix approx. 4)
	1,000.0 g	Polymer dispersion

Process

- The reactor is charged with water, emulsifier, potassium peroxodisulphate, Borax. The pH-value should be approx. 7 – 8.
- Preparation of a pre-emulsion (mixture I and II). Charge the pre-emulsion in the metering unit.
- Flush reactor with nitrogen and heat to 75 to 80 °C.
- Add the monomer pre-emulsion at 80 °C reactor temperature for approximately 2 hours.
- After dosage end post-polymerize for about 2 hours at 85 °C.
- Cooling to < 30 °C.

Technical data of the polymer dispersion

Particle size	approx. 0.1 µm
Drying residue	approx. 50%

Dosage

The required quantity depends upon the type and amount of starting monomers as well as upon the polymerization process and the desired properties of the polymer dispersion. In general, the amount incorporated ranges between 0.5 to 5% AS Disponil® SUS 87 Spez. calculated on the monomers.

Disponil® SUS 87 Spez. is suitable as an anion active sole emulsifier. Application frequently takes place in combination with nonionic Disponil® types of the series A, AFX, NRG or the products from Lutensol TO, XP or XL series.

Safety

We are not aware of any ill effect that can result from using Disponil® SUS 87 Spez. 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® SUS 87 Spez. 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.

Disclaimer

This document, or any answers or information provided herein by BASF, does not constitute a legally binding obligation of BASF. While the descriptions, designs, data and information contained herein are presented in good faith and believed to be accurate, it is provided for your guidance only. Because many factors may affect processing or application/use, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. It does not relieve our customers from the obligation to perform a full inspection of the products upon delivery or any other obligation. NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE.

July 2015