

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended



## RHEOBYK-D 420

Version 6.0  
SDB\_GB

Revision Date: 09.12.2024

Date of last issue: 11.11.2022  
Print Date 10.12.2024

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Trade name : RHEOBYK-D 420  
Product code : 000000000000155936

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Sub-  
stance/Mixture : Rheology Additive

#### 1.3 Details of the supplier of the safety data sheet

Company : BYK-Chemie GmbH  
Abelstrasse 45  
46483 Wesel  
Telephone : +49 281 670-0  
Telefax : +49 281 65735  
  
Information : Regulatory Affairs  
Telephone : +49 281 670-23532  
Telefax : +49 281 670-23533  
E-mail address : GHS.BYK@altana.com

#### 1.4 Emergency telephone number

+44 1235 239670

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### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

#### 2.2 Label elements

##### Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

##### Additional Labelling

EUH210 Safety data sheet available on request.

#### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

Chemical nature : Solution of a modified urea

##### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
lithium chloride	7447-41-8 231-212-3 01-2119560574-35	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Irrit. 2; H319  Acute toxicity estimate  Acute oral toxicity: 526 mg/kg	>= 1 - < 3

For explanation of abbreviations see section 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

General advice : Do not leave the victim unattended.

If inhaled : If unconscious, place in recovery position and seek medical advice.  
If symptoms persist, call a physician.

In case of eye contact : Remove contact lenses.  
Protect unharmed eye.  
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

Symptoms : No information available.

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### 4.3 Indication of any immediate medical attention and special treatment needed

Treatment : No information available.

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media : Foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

Unsuitable extinguishing media : High volume water jet

### 5.2 Special hazards arising from the substance or mixture

Hazardous combustion products : Carbon oxides  
Nitrogen oxides (NO<sub>x</sub>)  
Sulphur oxides  
Halogenated compounds  
Metal oxides  
Hydrogen chloride

### 5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

Further information : Standard procedure for chemical fires.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.

### 6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system.

### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Wipe up with absorbent material (e.g. cloth, fleece).  
Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal considerations see section 13., For personal protection see section 8.

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

- Advice on safe handling : For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.
- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Hygiene measures : General industrial hygiene practice.

#### 7.2 Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers : Electrical installations / working materials must comply with the technological safety standards.
- Advice on common storage : No materials to be especially mentioned.
- Further information on storage stability : No decomposition if stored and applied as directed.

#### 7.3 Specific end use(s)

- Specific use(s) : No data available

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

#### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
dimethyl sulfoxide	Workers	Inhalation		394 mg/m <sup>3</sup>
	Consumers	Inhalation		70 mg/m <sup>3</sup>
	Workers	Skin contact		400 mg/kg
	Consumers	Ingestion		100 mg/kg
	Consumers	Skin contact		200 mg/kg
lithium chloride	Workers	Skin contact	Acute systemic effects	100 mg/kg
	Workers	Inhalation	Acute systemic effects	30 mg/m <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	73,2 mg/kg
	Workers	Inhalation	Long-term systemic effects	10 mg/m <sup>3</sup>
	Consumers	Inhalation	Long-term systemic effects	10 mg/m <sup>3</sup>
	Consumers	Skin contact	Long-term systemic effects	73,2 mg/kg
	Consumers	Ingestion	Long-term systemic effects	7,32 mg/kg
	Consumers	Inhalation	Acute systemic effects	30 mg/m <sup>3</sup>

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according to Regulation (EC) No. 1907/2006, as amended



## RHEOBYK-D 420

Version 6.0  
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	Consumers	Skin contact	Acute systemic effects	50 mg/kg
	Consumers	Ingestion	Acute systemic effects	21,96 mg/kg

### Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
dimethyl sulfoxide	Fresh water	17 mg/l
	Marine water	1,7 mg/l
	Soil	3,02 mg/kg
lithium chloride	Sewage treatment plant	11 mg/l
	Oral	700 mg/kg
	Fresh water	10,4 mg/l
	Fresh water sediment	270 mg/kg
	Marine water	1,04 mg/l
	Marine sediment	27 mg/kg
	Soil	49,95 mg/kg
	Sewage treatment plant	140,2 mg/l

## 8.2 Exposure controls

### Personal protective equipment

- Eye protection : Safety glasses  
Hand protection  
Material : Nitrile rubber  
Break through time : 120 min
- Skin and body protection : Protective suit  
Respiratory protection : No personal respiratory protective equipment normally required.

### Environmental exposure controls

- General advice : Do not flush into surface water or sanitary sewer system.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- Physical state : liquid  
Colour : light yellow  
Odour : not significant  
Odour Threshold : No data available
- Melting point/freezing point : < 0 °C  
Method: derived
- Initial boiling point and boiling range : > 200 °C  
Method: derived
- Upper explosion limit / Upper flammability limit : No data available
- Lower explosion limit / Lower flammability limit : No data available
- Flash point : ca. 95 °C

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	Method: 49 (Pensky-Martens)
Auto-ignition temperature	: > 200 °C Method: M0062 (Analytics Wesel)
Decomposition temperature	: No data available
pH	: 7 (20 °C) Concentration: 1 % Method: Universal pH-value indicator
Viscosity	
Viscosity, dynamic	: ca. 111 mPa.s (20 °C) Method: P/K 20°C
Viscosity, kinematic	: 96,52 mm <sup>2</sup> /s (20 °C)
Solubility(ies)	
Water solubility	: immiscible
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Vapour pressure	: < 1 hPa Method: derived
Relative density	: No data available
Density	: ca. 1,15 g/cm <sup>3</sup> (20 °C, 1.013 hPa) Method: 4 (20°C oscillating U-tube)
Relative vapour density	: No data available

### 9.2 Other information

Flammability (liquids)	: Sustains combustion
Evaporation rate	: No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No decomposition if stored and applied as directed.

### 10.2 Chemical stability

No decomposition if stored and applied as directed.

### 10.3 Possibility of hazardous reactions

Hazardous reactions	: Stable under recommended storage conditions. No hazards to be specially mentioned.
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### 10.4 Conditions to avoid

Conditions to avoid	: No data available
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# SAFETY DATA SHEET

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## RHEOBYK-D 420

Version 6.0  
SDB\_GB

Revision Date: 09.12.2024

Date of last issue: 11.11.2022  
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### 10.5 Incompatible materials

Materials to avoid : Strong oxidizing agents  
Strong acids

### 10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Acute toxicity

##### Product:

Acute oral toxicity : Acute toxicity estimate: > 2.000 mg/kg  
Method: Calculation method

##### Components:

##### **lithium chloride:**

Acute oral toxicity : LD50 (Rat): 526 mg/kg  
GLP: No information available.  
  
Acute toxicity estimate: 526 mg/kg  
Method: Calculation method

Acute inhalation toxicity : LC50 (Rat): > 5,57 mg/l  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
GLP: yes

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg  
Method: OECD Test Guideline 402  
GLP: yes

#### Skin corrosion/irritation

##### Product:

Remarks : No data available

#### Serious eye damage/eye irritation

##### Product:

Remarks : No data available

##### Components:

##### **lithium chloride:**

Species : Rabbit  
Method : OECD Test Guideline 405  
Result : Severe eye irritation  
GLP : yes

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Version 6.0  
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### Respiratory or skin sensitisation

**Product:**

Remarks : No data available

**Components:**

**lithium chloride:**

Test Type : Buehler Test  
Exposure routes : Skin contact  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : Did not cause sensitisation on laboratory animals.  
GLP : yes

### Germ cell mutagenicity

**Product:**

Genotoxicity in vitro : Remarks: No data available

Genotoxicity in vivo : Remarks: No data available

### Carcinogenicity

**Product:**

Remarks : No data available

### Reproductive toxicity

**Product:**

Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No data available

### STOT - single exposure

**Product:**

Remarks : No data available

### STOT - repeated exposure

**Product:**

Remarks : No data available

### Repeated dose toxicity

**Product:**

Remarks : No data available

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SDB\_GB

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### Aspiration toxicity

**Product:**

No data available

### 11.2 Information on other hazards

#### Endocrine disrupting properties

**Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

#### Further information

**Product:**

Remarks : No data available

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## SECTION 12: Ecological information

### 12.1 Toxicity

**Product:**

Toxicity to fish : Remarks: No data available

**Components:**

**lithium chloride:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 158 mg/l  
Exposure time: 96 h  
Test Type: static test  
Method: OECD Test Guideline 203  
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 249 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202  
GLP: yes

NOEC (Daphnia magna (Water flea)): 63,4 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202  
GLP: yes

Toxicity to algae/aquatic plants : (Desmodesmus subspicatus (green algae)): > 400 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
GLP: yes

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### 12.2 Persistence and degradability

**Product:**

Biodegradability : Remarks: No data available

### 12.3 Bioaccumulative potential

**Product:**

Bioaccumulation : Remarks: No data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

**Product:**

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Endocrine disrupting properties

**Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### 12.7 Other adverse effects

**Product:**

Additional ecological information : No data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

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## SECTION 14: Transport information

### 14.1 UN number or ID number

Not regulated as a dangerous good

### 14.2 UN proper shipping name

Not regulated as a dangerous good

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### 14.3 Transport hazard class(es)

Not regulated as a dangerous good

### 14.4 Packing group

Not regulated as a dangerous good

### 14.5 Environmental hazards

Not regulated as a dangerous good

### 14.6 Special precautions for user

Not applicable

### 14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Relevant EU provisions transposed through retained EU law

**REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)** : Conditions of restriction for the following entries should be considered: Number on list **75**  
If you intend to use this product as tattoo ink, please contact your vendor.

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable  
Fire Hazard Class : -: -

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. Not applicable

### 15.2 Chemical safety assessment

Not applicable

## SECTION 16: Other information

Items where relevant changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

### Full text of H-Statements

H302 : Harmful if swallowed.  
H315 : Causes skin irritation.  
H319 : Causes serious eye irritation.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended



## RHEOBYK-D 420

Version 6.0  
SDB\_GB

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### Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Eye Irrit.	:	Eye irritation
Skin Irrit.	:	Skin irritation

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

### Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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