

**RHEOBYK-431**

Product code: 00000000000130005

Version 3.0 SDS\_APJ\_MY

Revision Date 11.11.2022

Print Date 09.08.2023

**SECTION 1: Identification of the hazardous chemical and of the supplier****Product identifier**

Product name : RHEOBYK-431  
Recommended use : Rheology Additive

**Manufacturer or supplier's details**

Company : BYK-Chemie GmbH  
Address : Abelstrasse 45  
46483 Wesel  
Telephone : +49 281 670-23532  
Telefax : +49 281 670-23533  
E-mail address : GHS.BYK@altana.com  
Emergency telephone number : +60 3 6207 4347 (Malay and English)  
+65 3158 1074 (All languages)

**SECTION 2: Hazards identification****Classification of the hazardous chemical**

Flammable liquids : Category 3  
Skin corrosion/irritation : Category 2  
Serious eye damage/eye irritation : Category 1  
Specific target organ toxicity - single exposure : Category 3 (Respiratory system, Central nervous system)

**Label elements**

Hazard pictograms : 

Signal word : Danger

Hazard statements : H226 Flammable liquid and vapour.  
H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H335 May cause respiratory irritation.  
H336 May cause drowsiness or dizziness.

Precautionary statements : **Prevention:**  
P210 Keep away from heat/ sparks/ open flames/ hot surfaces.  
No smoking.

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P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash skin thoroughly after handling.  
P280 Wear protective gloves/ eye protection/ face protection.

**Response:**

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

**Additional Labelling**

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 25 %

The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 25 %

**Other hazards which do not result in classification**

None known.

**SECTION 3: Composition and information of the ingredients of the hazardous chemical**

Substance / Mixture : Mixture

Chemical nature : Solution of a high molecular urea modified non polar polyamide

**Components**

Chemical name	CAS-No.	Concentration (% w/w)
iso-butanol	78-83-1	>= 50 -<= 100
2-phenoxyethanol	122-99-6	>= 7 -< 10

**SECTION 4: First aid measures**

General advice : Move out of dangerous area.  
Consult a physician.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.

If inhaled : Consult a physician after significant exposure.  
If unconscious, place in recovery position and seek medical advice.

In case of skin contact : If skin irritation persists, call a physician.  
If on skin, rinse well with water.  
If on clothes, remove clothes.

In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.  
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Continue rinsing eyes during transport to hospital.

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- Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.  
Do NOT induce vomiting.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : None known.

### SECTION 5: Firefighting measures

#### Extinguishing media

Suitable extinguishing media : Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

Unsuitable extinguishing media : High volume water jet

#### Physicochemical hazards arising from the chemical

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

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

#### Special protective equipment and precautions for fire-fighters

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

Specific extinguishing methods : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.  
For safety reasons in case of fire, cans should be stored separately in closed containments.  
Use a water spray to cool fully closed containers.

### SECTION 6: Accidental release measures

Personal precautions, protective equipment and : Use personal protective equipment.  
Remove all sources of ignition.

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emergency procedures	Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Environmental precautions	: Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

### SECTION 7: Handling and storage

#### Handling

##### Precautions for safe handling

Advice on protection against fire and explosion	: Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Keep away from open flames, hot surfaces and sources of ignition.
Advice on safe handling	: Avoid formation of aerosol. Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations.

#### Storage

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

Conditions for safe storage	: No smoking. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Electrical installations / working materials must comply with the technological safety standards.
Further information on storage stability	: No decomposition if stored and applied as directed.

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**SECTION 8: Exposure controls and personal protection**
**Control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
iso-butanol	78-83-1	TWA	50 ppm 152 mg/m <sup>3</sup>	MY PEL
		TWA	50 ppm	ACGIH

**Individual protection measures, such as personal protective equipment**

- Eye/face protection : Eye wash bottle with pure water  
Tightly fitting safety goggles  
Wear face-shield and protective suit for abnormal processing problems.
- Skin protection : Impervious clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Hand protection  
Material : Viton  
Break through time : 120 min
- Remarks : Wear suitable gloves.
- Respiratory protection : In the case of vapour formation use a respirator with an approved filter.
- Hygiene measures : When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and at the end of workday.

**SECTION 9: Physical and chemical properties**

- Appearance : liquid
- Colour : yellow
- Odour : alcohol-like
- Odour Threshold : No data available
- pH : 5 (20 °C)  
Concentration: 1 %  
Method: Universal pH-value indicator
- Melting point/range : < 0 °C  
Method: derived

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Initial boiling point	:	106 °C Method: derived
Flash point	:	ca. 29 °C  Method: 48 (Abel-Pensky)
Evaporation rate	:	No data available
Flammability (liquids)	:	Sustains combustion
Upper explosion limit / Upper flammability limit	:	7 %(V)
Lower explosion limit / Lower flammability limit	:	0.6 %(V)
Vapour pressure	:	< 10 hPa (20 °C) Method: derived
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	ca. 0.87 g/cm <sup>3</sup> (20 °C, 1,013 hPa) Method: 4 (20°C oscillating U-tube)
Bulk density	:	Not applicable
Solubility(ies)		
Water solubility	:	immiscible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	> 200 °C Method: DIN 51794
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	ca. 100 mPa.s ( 20 °C) Method: 11 (NV, 20°C)
Viscosity, kinematic	:	No data available
Surface tension	:	No data available

**SECTION 10: Stability and reactivity**

Reactivity	:	No decomposition if stored and applied as directed.
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Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed. Vapours may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents Acids

**SECTION 11: Toxicological information**

Information on likely routes of exposure : None known.

**Acute toxicity****Product:**

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg  
Method: Calculation method

**Components:****iso-butanol:**

Acute oral toxicity : LD50 (Rat, male): > 2,830 mg/kg  
Method: OECD Test Guideline 401  
GLP: yes

Acute dermal toxicity : LD50 (Rabbit, male): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
GLP: yes

**2-phenoxyethanol:**

Acute oral toxicity : LD50 (Rat): 1,840 mg/kg  
Method: OECD Test Guideline 401  
GLP: no

Acute inhalation toxicity : LC50 (Rat): > 1 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 412  
GLP: yes  
Assessment: The substance or mixture has no acute inhalation toxicity

**Skin corrosion/irritation****Product:**

Remarks : May irritate skin.  
May cause skin irritation in susceptible persons.

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**Components:****iso-butanol:**

Species : Rabbit  
Result : Skin irritation

**2-phenoxyethanol:**

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : No skin irritation

**Serious eye damage/eye irritation****Product:**

Remarks : May cause irreversible eye damage.

**Components:****iso-butanol:**

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

**2-phenoxyethanol:**

Species : Rabbit  
Result : Eye irritation  
Method : OECD Test Guideline 405

**Respiratory or skin sensitisation****Product:**

Remarks : No data available

**Components:****iso-butanol:**

Test Type : Maximisation Test  
Exposure routes : Dermal  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : Does not cause skin sensitisation.

**2-phenoxyethanol:**

Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : Does not cause skin sensitisation.

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**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

**Components:****2-phenoxyethanol:**

Effects on foetal development : Species: Rat  
Application Route: Oral  
Duration of Single Treatment: 14 d  
General Toxicity Maternal: NOAEL: 300 mg/kg body weight  
Teratogenicity: NOAEL: 1,000 mg/kg body weight  
Method: OECD Test Guideline 414

Species: Rabbit  
Application Route: Dermal  
Duration of Single Treatment: 14 d  
General Toxicity Maternal: NOAEL: 300 mg/kg body weight  
Teratogenicity: NOAEL: 600 mg/kg body weight

**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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### Components:

#### 2-phenoxyethanol:

Species : Rat  
 NOAEL : 700 mg/kg  
 Application Route : Oral  
 Method : OECD Test Guideline 408

Species : Rat  
 NOAEL : 0.0482 mg/l  
 Application Route : Inhalation  
 Method : OECD Test Guideline 412  
 Target Organs : Respiratory organs

#### Aspiration toxicity

##### Product:

No data available

### Components:

#### iso-butanol:

No aspiration toxicity classification

#### Further information

##### Product:

Remarks : Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.  
 Concentrations substantially above the TLV value may cause narcotic effects.  
 Solvents may degrease the skin.

## SECTION 12: Ecological information

### Ecotoxicity

##### Product:

Toxicity to fish :  
 Remarks: No data available

### Components:

#### iso-butanol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 1,430 mg/l  
 Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia pulex (Water flea)): 1,100 mg/l  
 aquatic invertebrates : Exposure time: 48 h  
 Test Type: static test

Toxicity to algae/aquatic : ErC50 (Pseudokirchneriella subcapitata (green algae)): 1,799

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plants mg/l  
 Exposure time: 72 h  
 Method: OECD Test Guideline 201  
 GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 20 mg/l  
 End point: Reproduction  
 Exposure time: 21 d  
 Test Type: semi-static test

### 2-phenoxyethanol:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia (water flea)): min. 100 mg/l  
 Exposure time: 48 h  
 Test Type: static test  
 Method: OECD Test Guideline 202

Toxicity to fish (Chronic toxicity) : NOEC: 23 mg/l  
 Exposure time: 34 d  
 Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia (water flea)): 9.43 mg/l  
 Exposure time: 21 d  
 Test Type: semi-static test  
 Method: OECD Test Guideline 211

### Persistence and degradability

#### Product:

Biodegradability : Remarks: No data available

#### Components:

##### iso-butanol:

Biodegradability : Result: Readily biodegradable.  
 Method: OECD Test Guideline 301D

##### 2-phenoxyethanol:

Biodegradability : Biodegradation: > 70 %  
 Exposure time: 28 d  
 Method: OECD Test Guideline 301A

### Bioaccumulative potential

#### Product:

Bioaccumulation : Remarks: No data available

#### Components:

##### iso-butanol:

Partition coefficient: n-octanol/water : log Pow: 1  
 Method: OECD Test Guideline 117  
 GLP: yes

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**Mobility in soil**

No data available

**Other adverse effects****Product:**

Additional ecological information : No data available

**SECTION 13: Disposal information****Disposal methods**

Waste from residues : Do not dispose of waste into sewer.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.  
Do not burn, or use a cutting torch on, the empty drum.

**SECTION 14: Transport information****International Regulations****IATA-DGR**

UN/ID No. : UN 1212  
Proper shipping name : Isobutyl alcohol solution  
Class : 3  
Packing group : III  
Labels : Flammable Liquids  
Packing instruction (cargo aircraft) : 366  
Packing instruction (passenger aircraft) : 355

**IMDG-Code**

UN number : UN 1212  
Proper shipping name : ISOBUTANOL SOLUTION

Class : 3  
Packing group : III  
Labels : 3  
EmS Code : F-E, S-D  
Marine pollutant : no

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

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**Special precautions for user**

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

**SECTION 15: Regulatory information****Safety, health, and environmental regulations specific for the hazardous chemical**

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013.

Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.

**SECTION 16: Other information**

Date format : dd.mm.yyyy

**Full text of other abbreviations**

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
MY PEL : Malaysia. Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.  
ACGIH / TWA : 8-hour, time-weighted average  
MY PEL / TWA : Eight-hour time-weighted average airborne concentration

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); 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; ERG - Emergency Response Guide; 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; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; 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;

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SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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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