

RHEOBYK-420

Version 5

Revision Date 05/17/2026

Print Date 06/18/2026

SECTION 1. IDENTIFICATION

Product name : RHEOBYK-420

Manufacturer or supplier's detailsCompany : BYK USA LLC
524 South Cherry Street
Wallingford CT 06492

Telephone : (203) 265-2086

Visit our web site : www.byk.comE-mail address : BRIEF.BYK.NAFTA@altana.comEmergency telephone number : 203-265-2086; CHEMTREC 1-800-424-9300 / +1
703-527-3887**Recommended use of the chemical and restrictions on use**

Recommended use : Rheology Additive

Restrictions on use : Refer to Section 15 for any restrictions that may apply

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Skin irritation : Category 2

Eye irritation : Category 2A

Reproductive toxicity : Category 1B

Specific target organ toxicity
- single exposure : Category 3 (Respiratory system)**GHS label elements**

Hazard pictograms :



Signal word : Danger

Hazard statements : H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H360 May damage fertility or the unborn child.Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

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P264 Wash skin thoroughly after handling.
 P271 Use only outdoors or in a well-ventilated area.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture
 Chemical nature : Solution of a modified urea

Hazardous components

| Component | CAS-No. | Concentration (%) |
|--------------------------|------------|-------------------|
| 1-Methyl-2-pyrrolidone | 872-50-4 | >= 30 - < 60 |
| Lithium chloride [LiCl] | 7447-41-8 | >= 1 - < 5 |
| Pyrrolidinone, dimethyl- | 60544-40-3 | >= 0.1 - < 1 |

The specific chemical identity/weight percent of proprietary ingredient(s) is a trade secret

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.

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| If inhaled | : Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended. If unconscious, place in recovery position and seek medical advice. |
| In case of skin contact | : If symptoms persist, call a physician. If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes. |
| In case of eye contact | : Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist. |
| If swallowed | : Clean mouth with water and drink afterwards plenty of water. Induce vomiting immediately and call a physician. 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. Take victim immediately to hospital. |
| Most important symptoms and effects, both acute and delayed | : No information available. |

SECTION 5. FIREFIGHTING MEASURES

| | |
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| Suitable extinguishing media | : Foam Carbon dioxide (CO ₂) Dry chemical |
| Unsuitable extinguishing media | : High volume water jet |
| Specific hazards during firefighting | : Cool closed containers exposed to fire with water spray. Will not explode on mechanical impact. Do not allow run-off from fire fighting to enter drains or water courses. |
| Hazardous combustion products | : Carbon oxides Nitrogen oxides (NO _x) chlorinated compounds |
| Further information | : 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. |
| Special protective equipment for firefighters | : Wear self-contained breathing apparatus for firefighting if necessary. |

SECTION 6. ACCIDENTAL RELEASE MEASURES

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| Personal precautions, | : Use personal protective equipment. |
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protective equipment and
emergency procedures

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 : Soak up with inert absorbent material (e.g. sand, silica gel,
acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

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.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national
regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated
place.
Observe label precautions.
Electrical installations / working materials must comply with
the technological safety standards.

Materials to avoid : Keep away from strong acids.
Keep away from strong bases.
Keep away from oxidizing agents.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|------------------------|----------|-------------------------------------|---|---------|
| 1-Methyl-2-pyrrolidone | 872-50-4 | TWA | 10 ppm | US WEEL |

Hazardous components without workplace control parameters

Engineering measures : Use with local exhaust ventilation.

Personal protective equipment

Respiratory protection : In the case of vapour formation use a respirator with an
approved filter.

Hand protection
Material : Nitty Gritty Gloves

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| | butyl-rubber |
| Remarks | : The suitability for a specific workplace should be discussed with the producers of the protective gloves. |
| Eye protection | : Eye wash bottle with pure water Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems. |
| Skin and body protection | : Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place. |
| 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

| | |
|-----------------------------------|---|
| Physical state | : liquid |
| Colour | : light yellow |
| Odour | : not significant |
| Odour Threshold | : No data available |
| pH | : 5, Concentration: 10 % (68 °F (20 °C)) Method: Universal pH-value indicator |
| Melting point/ range | : < 32 °F (< 0 °C) Method: derived |
| Initial boiling point | : 397.40 °F (203.00 °C) Method: derived |
| Vapour pressure | : < 1 hPa (68.00 °F (20.00 °C)) Method: derived |
| Flash point | : 203 °F (95 °C) Method: 49 (Pensky-Martens) |
| Upper explosion limit | : 9.50 %(V) |
| Lower explosion limit | : 1.30 %(V) |
| Evaporation rate | : No data available |
| Relative vapour density | : No data available |
| Relative Density/Specific Gravity | : No data available |
| Density | : 1.1200 g/cm ³ (68.00 °F (20.00 °C)) Method: 4 (20°C oscillating U-tube) |

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Solubility(ies)
Water solubility : completely miscible

Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Ignition temperature : > 392 °F (> 200 °C)
Method: M0062 (Analytics Wesel)

Thermal decomposition : No data available

Viscosity
Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : No decomposition if stored and applied as directed.

Possibility of hazardous reactions : No decomposition if stored and applied as directed.

Conditions to avoid : No data available

Incompatible materials : Acids
Strong oxidizing agents
Alkalis

Hazardous decomposition products : None expected

SECTION 11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

Skin contact
Skin Absorption
Inhalation
Eyes
Ingestion

Acute toxicity**Product:**

Acute oral toxicity : Acute toxicity estimate : 2,915 mg/kg
Method: Calculation method

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Acute dermal toxicity : Acute toxicity estimate : > 5,000 mg/kg
Method: Calculation method

Components:**872-50-4 1-Methyl-2-pyrrolidone:**

Acute oral toxicity : LD50 (Rat): 4,150 mg/kg
Method: OECD Test Guideline 401
GLP: no

Acute inhalation toxicity : LC50 (Rat): > 5.1 mg/l
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: yes

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 402
GLP: No information available.

7447-41-8 Lithium chloride [LiCl]:

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

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: May cause skin irritation in susceptible persons.

Components:**872-50-4 1-Methyl-2-pyrrolidone:**

Species: Rabbit
Method: OECD Test Guideline 404
Result: slight irritation
GLP: yes

7447-41-8 Lithium chloride [LiCl]:

Species: Rabbit
Result: Moderate skin irritation

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

Remarks: Causes serious eye irritation.

Components:**872-50-4 1-Methyl-2-pyrrolidone:**

Species: Rabbit

Result: Severe eye irritation

Method: OECD Test Guideline 405

GLP: no

7447-41-8 Lithium chloride [LiCl]:

Species: Rabbit

Result: Severe eye irritation

Method: OECD Test Guideline 405

GLP: yes

Respiratory or skin sensitisation**Product:**

Remarks: No data available

Components:**872-50-4 1-Methyl-2-pyrrolidone:**

Test Type: Mouse Local Lymph Node assay (LLNA)

Exposure routes: Skin contact

Species: Mouse

Method: OECD Test Guideline 429

Result: Not a skin sensitizer.

GLP: yes

7447-41-8 Lithium chloride [LiCl]:

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

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Product:

Remarks: No data available

IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity**Product:**

Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No human information is available.

STOT - single exposure**Product:**

Assessment: May cause respiratory irritation.

STOT - repeated exposure**Product:**

Remarks: No data available

Repeated dose toxicity**Product:**

Remarks: Prolonged absorption of Lithium Chloride may cause injury to the kidney and/or blood. Laboratory test results indicate Lithium Chloride may be teratogenic. Reproductive and developmental studies in rats exposed to NMP showed effects including reduced fertility (male and female and reduced mean offspring body weight at birth and throughout lactation. Risk is significantly reduced when impervious gloves are used. Inhalation of NMP is not likely unless it is heated or sprayed. Prolonged skin contact with NMP may cause dermatitis.

Aspiration toxicity**Product:**

No data available

Experience with human exposure**Product:**

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| | | |
|---------------|-----------|---|
| Inhalation: | Symptoms: | None expected. |
| Skin contact: | Symptoms: | Contact will probably cause irritation. |
| Eye contact: | Symptoms: | Contact will probably cause irritation. |
| Ingestion: | Symptoms: | Ingestion may irritate the digestive tract. |

Further information**Product:**

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Product:**

Toxicity to fish : Remarks: No data available

Persistence and degradability**Product:**

Biodegradability : Remarks: No data available

Bioaccumulative potential**Product:**

Bioaccumulation : Remarks: No data available

Mobility in soil

No data available

Other adverse effects

No data available

Product:

Regulation 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances

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US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)

This material does not contain any components with a SARA 302 RQ.

SARA 311/312 Hazards : Per the June 13, 2016 Federal Register notice, EPA harmonized the EPCRA 311/312 hazard categories with the 2012 OSHA hazard communication standard for classifying and labeling of chemicals (i.e. GHS). Please refer to Section 2 of the SDS to identify the appropriate hazard categories for reporting purposes.

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

| | | |
|------------------------|----------|--------|
| 1-Methyl-2-pyrrolidone | 872-50-4 | 47.8 % |
|------------------------|----------|--------|

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

Non-volatile (Wt) : 48 - 56 %
 Method: 20min/175°C
 DIN EN ISO 3251
 Non-volatile information is not a specification.

Massachusetts Right To Know

| | |
|------------------------|----------|
| 1-Methyl-2-pyrrolidone | 872-50-4 |
|------------------------|----------|

Pennsylvania Right To Know

| | |
|------------------------|----------|
| Modified urea | - |
| 1-Methyl-2-pyrrolidone | 872-50-4 |

New Jersey Right To Know

New Jersey Trade Secret Registry Number for the product (NJ TSRN) : 800963-5266

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California Prop. 65

⚠ WARNING: This product can expose you to chemicals including 1-Methyl-2-pyrrolidone, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

The components of this product are reported in the following inventories:

- TSCA : All substances listed as active on the TSCA inventory
- Section 5a : No substances are subject to a Significant New Use Rule.
- Section 4 / 12(b) : The following substance(s) is/are subject to TSCA 12(b) export notification requirements:
- DSL : We certify that all of the components of this product are listed on the DSL.

SECTION 16. OTHER INFORMATION

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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.