

PURABYK-R 5531

Product code: 000000000000121785

Version 3.0 SDS_APJ_MY

Revision Date 15.01.2025

Print Date 22.01.2025

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

Product name : PURABYK-R 5531
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**

Skin sensitisation : Category 1

Label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H317 May cause an allergic skin reaction.

Precautionary statements :

Prevention:

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves.

Response:

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.

Disposal:

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

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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 modified urea

Components

Chemical name	CAS-No.	Concentration (% w/w)
4-morpholinecarbaldehyde	4394-85-8	>= 50 -<= 100
lithium chloride	7447-41-8	>= 1 -< 3

SECTION 4: First aid measures

General advice : Move out of dangerous area.
 Show this safety data sheet to the doctor in attendance.
 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 skin contact : If on skin, rinse well with water.

In case of eye contact : Flush eyes with water as a precaution.
 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 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 : No information available.

Notes to physician : No information available.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media : Foam
 Carbon dioxide (CO₂)
 Dry chemical

Unsuitable extinguishing media : High volume water jet

Physicochemical hazards arising from the chemical

Hazardous combustion products : Carbon oxides
 Nitrogen oxides (NO_x)
 Halogenated compounds
 Metal oxides
 Hydrogen chloride
 Hydrogen cyanide (hydrocyanic acid)

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

SECTION 6: Accidental release measures

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
- Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
- 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**Handling****Precautions for safe handling**

- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Advice on safe handling : 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.
Dispose of rinse water in accordance with local and national regulations.
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Storage**Conditions for safe storage, including any incompatibilities**

- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
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**

Contains no substances with occupational exposure limit values.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection	:	Eye wash bottle with pure water Tightly fitting safety goggles
Skin protection	:	Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hand protection	:	
Material	:	Nitrile rubber
Break through time	:	> 480 min
Remarks	:	Wear suitable gloves.
Hygiene measures	:	Wash hands before breaks and at the end of workday.

SECTION 9: Physical and chemical properties

Appearance	:	liquid
Colour	:	yellow - brown
Odour	:	characteristic
Odour Threshold	:	No data available
pH	:	6 (20 °C) Concentration: 10 % Method: Universal pH-value indicator
Melting point/ range	:	ca. < 0 °C Method: derived
Boiling point/boiling range	:	ca. 244 °C Method: derived
Flash point	:	126 °C Method: 49 (Pensky-Martens)
Evaporation rate	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	ca. 1 hPa (20 °C) Method: derived
Relative vapour density	:	No data available

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Relative density	:	No data available
Density	:	ca. 1.18 g/cm ³ (20 °C, 1,013 hPa) Method: 4 (20°C oscillating U-tube)
Solubility(ies)	:	
Water solubility	:	partly miscible
Solubility in other solvents	:	No data available
Auto-ignition temperature	:	> 200 °C Method: M0062 (Analytics Wesel)
Decomposition temperature	:	No data available
Viscosity	:	
Viscosity, dynamic	:	ca. 1,024 mPa.s (20 °C) Method: P/K 20°C
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	:	Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents Acids Bases
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

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:**4-morpholinecarbaldehyde:**

Acute oral toxicity : LD50 (Rat): > 7,360 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 18,400 mg/kg
Method: OECD Test Guideline 402

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lithium chloride:

- 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 and/or dermatitis.

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

- Remarks : Vapours may cause irritation to the eyes, respiratory system and the skin.

Components:**lithium chloride:**

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

Respiratory or skin sensitisation**Product:**

- Remarks : Causes sensitisation.

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

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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

Aspiration toxicity**Product:**

No data available

Further information**Product:**

Remarks : No data available

SECTION 12: Ecological information**Ecotoxicity****Product:**Toxicity to fish :
Remarks: No data availableToxicity to daphnia and other aquatic invertebrates :
Remarks: No data available

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Components:**4-morpholinecarbaldehyde:**

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): > 500 mg/l
Exposure time: 96 h
Method: DIN 38412

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 500 mg/l
aquatic invertebrates Exposure time: 48 h

Toxicity to algae/aquatic : EC50 (Scenedesmus subspicatus): 23,880 mg/l
plants Exposure time: 72 h

EC10 (Scenedesmus subspicatus): 17,040 mg/l
Exposure time: 72 h

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 : EC50 (Daphnia magna (Water flea)): 249 mg/l
aquatic invertebrates 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 : (Desmodesmus subspicatus (green algae)): > 400 mg/l
plants Exposure time: 72 h
Method: OECD Test Guideline 201
GLP: yes

Persistence and degradability**Product:**

Biodegradability : Remarks: No data available

Components:**4-morpholinecarbaldehyde:**

Biodegradability : Result: Readily biodegradable.
Method: OECD Test Guideline 301A
GLP: yes

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Bioaccumulative potential**Product:**

Bioaccumulation : Remarks: No data available

Components:**4-morpholinecarbaldehyde:**Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): < 1.9
Exposure time: 56 d
Method: OECD Test Guideline 305C**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.**SECTION 14: Transport information****International Regulations****UNRTDG**UN number : Not applicable
Proper shipping name : Not applicable
Class : Not applicable
Subsidiary risk : Not applicable
Packing group : Not applicable
Labels : Not applicable**IATA-DGR**UN/ID No. : Not applicable
Proper shipping name : Not applicable
Class : Not applicable
Subsidiary risk : Not applicable
Packing group : Not applicable
Labels : Not applicable
Packing instruction (cargo aircraft) : Not applicable

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Packing instruction : Not applicable
(passenger aircraft)

IMDG-Code

UN number : Not applicable
Proper shipping name : Not applicable
Class : Not applicable
Subsidiary risk : Not applicable
Packing group : Not applicable
Labels : Not applicable
EmS Code : Not applicable
Marine pollutant : Not applicable

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

Not applicable for product as supplied.

Special precautions for user

Not applicable

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

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

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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; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECL - 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

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