

## Safety data sheet

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BASF Safety data sheet  
Date / Revised: 28.07.2025  
Product: **Basonat® LR 9056**

Version: 2.0

(30591253/SDS\_GEN\_VN/EN)

Date of print: 07.10.2025

### 1. Substance/preparation and manufacturer/supplier identification

**Product name:**  
**Basonat® LR 9056**

Use: Raw material, for industrial use only

Manufacturer/supplier:  
BASF Vietnam Co. Ltd.  
Level 23, Deutsches Haus, 33 Le Duan,  
Sai Gon Ward, Ho Chi Minh City, Vietnam  
Telephone: +84 28 3824 3833  
Telefax number: +84 28 3824 3832  
E-mail address: minh-triet.thieu@basf.com

Emergency information:  
18001703 (Vietnam)  
Telefax number: +84 28 3824 3832  
International emergency number:  
Telephone: +49 180 2273-112

### 2. Hazard identification

Classification of the substance and mixture:  
Acute toxicity: Cat.4 (Inhalation - mist)  
Acute toxicity: Cat.5 (oral)  
Skin sensitization: Cat.1  
Specific target organ toxicity — single exposure: Cat.3 (irritating to respiratory system)  
Hazardous to the aquatic environment - acute: Cat.3  
Hazardous to the aquatic environment - chronic: Cat.3

Label elements and precautionary statement:

Pictogram:



Signal Word:  
Warning

Hazard Statement:

H332	Harmful if inhaled.
H303	May be harmful if swallowed.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H402	Harmful to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P280	Wear protective gloves.
P271	Use only outdoors or in a well-ventilated area.
P260	Do not breathe mist or vapour.
P273	Avoid release to the environment.
P272	Contaminated work clothing should not be allowed out of the workplace.

Precautionary Statements (Response):

P312	Call a POISON CENTER or physician if you feel unwell.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P333 + P313	If skin irritation or rash occurs: Get medical attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Precautionary Statements (Storage):

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.
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Other hazards which do not result in classification:

No specific dangers known, if the regulations/notes for storage and handling are considered.

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### 3. Composition/information on ingredients

#### Chemical nature

Substance nature: mixture

polyfunctional polyisocyanate, aliphatic

#### Hazardous ingredients

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(OLIGOMER) Hexamethylene diisocyanate isocyanurate-type oligomers

Content (W/W):  $\geq 60\%$  -  $\leq 80\%$  Acute Tox.: Cat. 4 (Inhalation - mist)  
CAS Number: 28182-81-2 Skin Sens.: Cat. 1  
STOT SE: Cat. 3 (irr. to respiratory syst.)

Poly(oxy-1,2-ethanediyl), .alpha.-methyl-.omega.-hydroxy-, polymer with 1,6-diisocyanatohexane, block

Content (W/W):  $\geq 20\%$  -  $\leq 35\%$  Acute Tox.: Cat. 4 (Inhalation - mist)  
CAS Number: 143472-08-6 Skin Sens.: Cat. 1  
STOT SE: Cat. 3 (irr. to respiratory syst.)  
Aquatic Acute: Cat. 3  
Aquatic Chronic: Cat. 3

1,6-hexamethylene diisocyanate

Content (W/W):  $< 0.1\%$  Acute Tox.: Cat. 4 (oral)  
CAS Number: 822-06-0 Acute Tox.: Cat. 1 (Inhalation - mist)  
Skin Irrit.: Cat. 2  
Eye Irrit.: Cat. 2A  
Resp. Sens.: Cat. 1  
Skin Sens.: Cat. 1  
STOT SE: Cat. 3 (irr. to respiratory syst.)

## 4. First-Aid Measures

General advice:

Immediately remove contaminated clothing.

If inhaled:

If difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention.

On skin contact:

Wash thoroughly with soap and water

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:

Rinse mouth and then drink 200-300 ml of water. Do not induce vomiting unless told to by a poison control center or doctor.

Note to physician:

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

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## 5. Fire-Fighting Measures

Suitable extinguishing media:  
water spray, dry powder, foam

Unsuitable extinguishing media for safety reasons:  
water jet

Specific hazards:  
harmful vapours  
Generation of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

Special protective equipment:  
Wear a self-contained breathing apparatus.

Further information:  
The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations.

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## 6. Accidental Release Measures

Personal precautions:  
Use personal protective clothing. Breathing protection required.

Environmental precautions:  
Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.

Methods for cleaning up or taking up:  
For large amounts: Pump off product.  
For residues: Pick up with suitable absorbent material. Dispose of absorbed material in accordance with regulations.

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## 7. Handling and Storage

### Handling

Avoid handling of the substance in case of known skin complaints, hypersensitivity reactions, chronic respiratory disease, asthmatic attacks or bronchial attacks. Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts/mists/vapours. Avoid frequent and direct contact with substance. Ensure good work practices are implemented. Regular inspection and maintenance of equipment and machines. Clean equipment and the work area every day. Engineering controls have to be used to reduce exposures. Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. Workers should receive a pre-placement examination and subsequent periodic medical examinations, including a pulmonary function test. Wear suitable face shield. Wear an impervious suit. Use suitable eye protection. Wear chemically resistant gloves in combination with 'basic' employee training. Change gloves, if duration of activity exceeds break through time. Use a local exhaust ventilation with adequate effectiveness. In case of insufficient ventilation, wear suitable respiratory equipment.

Protection against fire and explosion:  
Take precautionary measures against static discharges.

#### Storage

Further information on storage conditions: Keep container tightly closed and in a cool place. Keep container dry.

Storage stability:  
If moisture enters isocyanate containers, CO<sub>2</sub> forms and pressure builds up.

Protect from temperatures above: 50 °C

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## 8. Exposure controls and personal protection

### Components with occupational exposure limits

1,6-hexamethylene diisocyanate, 822-06-0;  
TWA value 0.005 ppm (ACGIHTLV)

### Personal protective equipment

Respiratory protection:  
For short-term or slight exposure, use a respiratory mask with filter, for intensive or long-term exposure wear full respiratory protection apparatus Combination filter for gases/vapours of organic compounds and solid and liquid particles (f.e. EN 14387 Type A-P2)

Hand protection:  
Chemical resistant protective gloves  
Suitable materials for short-term contact (recommended: At least protective index 2, corresponding > 30 minutes of permeation time according to EN ISO 374-1)  
nitrile rubber (NBR) - 0.4 mm coating thickness  
fluoroelastomer (FKM) - 0.7 mm coating thickness  
Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.  
Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:  
Safety glasses with side-shields (frame goggles) (f.e. EN 166) and face shield

Body protection:  
Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures:  
Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Do not breathe

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vapour/aerosol/spray mists. Ensure adequate ventilation. Clean equipment, work area and clothing regularly.

## 9. Physical and Chemical Properties

Form:	liquid	
Colour:	colourless to yellowish	
Odour:	product specific	
Odour threshold:	not determined	
pH value:	not applicable	
Melting point:	approx. -46 °C	(DIN 51583)
Boiling point:	not determined	
Flash point:	168 °C	(ISO 2719)
Evaporation rate:	No data available.	
Flammability (solid/gas):	not flammable	(derived from flash point)
Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.	
Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.	
Ignition temperature:	414 °C	(DIN EN 14522)
Thermal decomposition:	No data available.	
Self ignition:	not self-igniting	
Self heating ability:	It is not a substance capable of spontaneous heating.	
Explosion hazard:	not explosive	
Fire promoting properties:	not fire-propagating	
Vapour pressure:	< 0.0001 hPa (20 °C)	
Density:	1.16 g/cm <sup>3</sup> (20 °C)	

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Relative density:	1.14 g/cm <sup>3</sup> (50 °C)
Bulk density:	1.16 (20 °C)
Relative vapour density (air):	not applicable not determined
Solubility in water:	Reacts with water.
Miscibility with water:	Reacts with water.
Hygroscopy:	hygroscopic
Solubility (qualitative) solvent(s):	polar solvents soluble
Partitioning coefficient n-octanol/water (log Pow):	Study scientifically not justified.
Surface tension:	Based on chemical structure, surface activity is not to be expected.
Viscosity, dynamic:	1.5 - 3.0 Pa.s (23 °C, 50 1/s)

(DIN EN ISO 3219)

#### Particle characteristics

Particle size distribution: The substance / product is marketed or used in a non solid or granular form. -

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## 10. Stability and Reactivity

Conditions to avoid:  
Avoid moisture. Avoid humidity. Avoid direct contact with water.

Thermal decomposition: No data available.

Substances to avoid:  
water, alcohols, amines

Hazardous reactions:  
Reacts with alcohols. Reacts with amines. Reacts with substances which contain active hydrogen.  
Reacts with water, with formation of carbon dioxide. The formation of gaseous decomposition products builds up pressure in tightly closed containers.

Hazardous decomposition products:  
No hazardous decomposition products if stored and handled as prescribed/indicated.

Chemical stability:  
The product is stable if stored and handled as prescribed/indicated.

Reactivity:  
No hazardous reactions if stored and handled as prescribed/indicated.

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## 11. Toxicological Information

### Routes of exposure

#### Acute oral toxicity

Experimental/calculated data:

LD50rat (oral): > 2,000 mg/kg

The product has not been tested. The statement has been derived from the properties of the individual components.

#### Acute inhalation toxicity

LC50 rat (by inhalation): > 1 - 5 mg/l 4 h

The substance from the isocyanate substance class has been tested in a form (respirable aerosol) that is different from the forms in which the product is placed on the market and used. Therefore, the test result is not adequate for the purpose of classification and labelling of the product. Based on expert judgement and available data, a modified classification and labeling for acute inhalation toxicity is justified. The generation of a respirable aerosol must be prevented! The product has not been tested. The statement has been derived from the properties of the individual components.

#### Acute dermal toxicity

LD50 rat (dermal):

not determined

#### Assessment of acute toxicity

Virtually nontoxic after a single ingestion. Of moderate toxicity after short-term inhalation. The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: (OLIGOMER) Hexamethylene diisocyanate isocyanurate-type oligomers

#### Acute inhalation toxicity

Experimental/calculated data:

LC50 rat (by inhalation): 0.467 mg/l 4 h (OECD Guideline 403)

The test result applies only to the substance transferred into respirable aerosol (particles < 20 µm).

An aerosol was tested.

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### Symptoms

Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

(Further) symptoms and / or effects are not known so far

### Irritation

Assessment of irritating effects:

Not irritating to eyes and skin. The product has not been tested. The statement has been derived from the properties of the individual components.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant (OECD Guideline 404)

The product has not been tested. The statement has been derived from the properties of the individual components.



Serious eye damage/irritation rabbit: non-irritant (OECD Guideline 405)  
The product has not been tested. The statement has been derived from the properties of the individual components.

### **Respiratory/Skin sensitization**

Experimental/calculated data:  
Guinea pig maximization test guinea pig: skin sensitizing  
Caused skin sensitization in animal studies. The product has not been tested. The statement has been derived from the properties of the individual components.

### **Germ cell mutagenicity**

Assessment of mutagenicity:  
Based on the ingredients, there is no suspicion of a mutagenic effect.

### **Carcinogenicity**

Assessment of carcinogenicity:  
No data available.

### **Reproductive toxicity**

Assessment of reproduction toxicity:  
No data available.

### **Developmental toxicity**

Assessment of teratogenicity:  
No data available.

### **Specific target organ toxicity (single exposure)**

Causes temporary irritation of the respiratory tract.

### **Repeated dose toxicity and Specific target organ toxicity (repeated exposure)**

Assessment of repeated dose toxicity:  
No data available.

### **Aspiration hazard**

No aspiration hazard expected.

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## **12. Ecological Information**

### **Ecotoxicity**

Assessment of aquatic toxicity:  
The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish:  
LC50 (96 h), Fish  
not determined

Aquatic invertebrates:  
EC50 (48 h) 10 - 100 mg/l, Daphnia magna  
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Aquatic plants:  
EC50 (72 h), algae  
not determined

Microorganisms/Effect on activated sludge:  
EC50 (3 h) > 1,000 mg/l, bacteria  
The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Chronic toxicity to fish:  
No data available.

Chronic toxicity to aquatic invertebrates:  
No data available.

Assessment of terrestrial toxicity:  
Study scientifically not justified.

## **Mobility**

Assessment transport between environmental compartments:  
The substance will not evaporate into the atmosphere from the water surface.  
No data available.

## **Persistence and degradability**

Elimination information:  
Not readily biodegradable (by OECD criteria).

## **Bioaccumulation potential**

Assessment bioaccumulation potential:  
The product has not been tested.

## **Additional information**

Add. remarks environm. fate & pathway:  
Treatment in biological waste water treatment plants has to be performed according to local and administrative regulations.

Other ecotoxicological advice:  
Do not release untreated into natural waters. The local regulations on waste-water treatment must be followed.

### 13. Disposal Considerations

Information on disposal regulations: Must comply with regulations on hazardous waste such as:

- Decree No. 08/2022/ND-CP of the Government: detailing a number of articles of the Law on Environmental Protection.

- Circular No. 02/2022/TT-BTNMT of the Ministry of Natural Resources and Environment: detailing a number of articles of the Law on Environmental Protection.

Incinerate in suitable incineration plant, observing local authority regulations.

Contaminated packaging:

Uncontaminated packaging can be re-used.

Packs that cannot be cleaned should be disposed of in the same manner as the contents.

Refer to manufacturer/supplier for information on recovery/recycling.

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### 14. Transport Information

#### Domestic transport:

	Not classified as a dangerous good under transport regulations
UN number or ID number	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

#### Sea transport

##### IMDG

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
	Marine pollutant: no
Special precautions for user	None known

#### Air transport

##### IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number or ID number	Not applicable
Proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable

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Environmental hazards:	Not applicable
Special precautions for user	None known

## Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

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## 15. Regulatory Information

### Other regulations

Legal information on safety, health and environment for chemicals:

Law on Chemicals No. 06/2007/QH12

Chemical Safety Sheets (SDS) are compiled in accordance with international regulations on chemical classification and labelling (GHS) as well as relevant applicable legal regulations:

- QCVN 05A:2020/BCT National Technical Regulation on safety in production, trading, use, preservation and transportation of hazardous chemicals.
- Amendment 1:2024 QCVN 05A:2020/BCT National technical regulation on safety in production, trading, use, preservation and transportation of hazardous chemicals.
- Decree No. 113/2017/ND-CP dated 09/10/2017 of the Government detailing and guiding the implementation of a number of articles of the Law on Chemicals;
- Circular No. 32/2017/TT-BCT dated 28/12/2017 of the Ministry of Industry and Trade specifying and guiding the implementation of a number of articles of the Law on Chemicals and Decree No. 113/2017/ND-CP dated 09/10/2017 of the Government detailing and guiding the implementation of a number of articles of the Law on Chemicals;
- Decree No. 82/2022/ND-CP dated October 18, 2022 of the Government amending and supplementing a number of articles of the Government's Decree No. 113/2017/ND-CP dated October 09, 2017 detailing and guiding the implementation of a number of articles of the Law on Chemicals
- Circular No. 17/2022/TT-BCT dated October 27, 2022 of the Ministry of Industry and Trade amending and supplementing a number of articles of Circular No. 32/2017/TT-BCT dated December 28, 2017 of the Minister of Industry and Trade specifying and guiding the implementation of a number of articles of the Law on Chemicals and the Government's Decree No. 113/2017/ND-CP dated October 09, 2017 detailing and guiding the exam a number of articles of the Law on Chemicals
- Decree No. 161/2024 ND-CP dated December 18, 2024 of the Government regulating the list of dangerous goods, transportation of dangerous goods and the order and procedures for issuance of licenses and certificates of completion of training programs for drivers or escorts transporting dangerous goods on roads;
- Decree 34/2024/ND-CP dated 31/03/2024 regulating the list of dangerous goods, transporting dangerous goods by road motor vehicles and inland waterway vehicles
- Circular No. 37/2020/TT-BCT dated 30/11/2020 of the Ministry of Industry and Trade stipulating the list of dangerous goods that must be packed in the process of transporting and transporting dangerous goods by road, railway and inland waterway motor vehicles.
- Decree No. 71/2019/ND-CP dated August 30, 2019 of the Government stipulating the sanctioning of administrative violations in the field of chemicals and industrial explosives.

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## 16. Other Information

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Vertical lines in the left hand margin indicate an amendment from the previous version.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.