

Safety Data Sheet

according to UK REACH Regulation

Bergolin Hardener 7D9700

Revision date: 21.11.2024

Product code: A1022462

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

1.1. Product identifier

Bergolin Hardener 7D9700

Product group: Produkt

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

Use of the substance/mixture

Hardener for 2K polyurethane systems

1.3. Details of the supplier of the safety data sheet

Company name: Bergolin GmbH & Co. KG
Street: Sachsenring 1
Place: D-27711 Osterholz-Scharmbeck
Telephone: +49 4795 95899 0
e-mail: info@bergolin.de
Contact person: Gefahrstoffmanagement
e-mail: sdb@bergolin.de
Internet: www.bergolin.de
Responsible Department: Sicherheitsdatenblattverwaltung

1.4. Emergency telephone

+49 4795 95899 0

number:

Only available during office hours. (8-16 CET)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Acute Tox. 4; H332
Skin Sens. 1; H317
STOT SE 3; H335

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Hazard components for labelling

Hexamethylene-1,6-diisocyanate homopolymer
hexamethylene-di-isocyanate

Signal word: Warning

Pictograms:



Hazard statements

H317 May cause an allergic skin reaction.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.

Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.

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Special labelling of certain mixtures

EUH204

Contains isocyanates. May produce an allergic reaction.
As from 24 August 2023 adequate training is required before industrial or professional use.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

polyisocyanate

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
28182-81-2	Hexamethylene-1,6-diisocyanate homopolymer			95 - < 100 %
	500-060-2			
	Acute Tox. 4, Skin Sens. 1, STOT SE 3; H332 H317 H335			
822-06-0	hexamethylene-di-isocyanate			< 1 %
	212-485-8	615-011-00-1	01-2119457571-37	
	Acute Tox. 1, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Resp. Sens. 1, Skin Sens. 1, STOT SE 3; H330 H302 H315 H319 H334 H317 H335			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
28182-81-2	500-060-2	Hexamethylene-1,6-diisocyanate homopolymer	95 - < 100 %
		inhalation: ATE = 11 mg/l (vapours); inhalation: LC50 = 0,39 mg/l (dusts or mists); dermal: LD50 = >2000 mg/kg; oral: LD50 = >2500 mg/kg	
822-06-0	212-485-8	hexamethylene-di-isocyanate	< 1 %
		inhalation: LC50 = 0,124 mg/l (vapours); inhalation: ATE = 0,005 mg/l (dusts or mists); dermal: LD50 = >7000 mg/kg; oral: LD50 = 959 mg/kg Resp. Sens. 1; H334: >= 0,5 - 100 Skin Sens. 1; H317: >= 0,5 - 100	

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

When in doubt or if symptoms are observed, get medical advice.
Never give anything by mouth to an unconscious person or a person with cramps.
If unconscious place in recovery position and seek medical advice.

After inhalation

Remove casualty to fresh air and keep warm and at rest.
If breathing is irregular or stopped, administer artificial respiration.

After contact with skin

Immediately remove any contaminated clothing, shoes or stockings.
After contact with skin, wash immediately with plenty of water and soap.
Do not wash with: Solvents/Thinner.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Remove contact lenses, if present and easy to do. Continue rinsing.
Seek medical advice immediately.

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After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.
Put victim at rest, cover with a blanket and keep warm.
Do NOT induce vomiting.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

alcohol resistant foam, Carbon dioxide (CO₂), Extinguishing powder, Water mist

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

Burning produces heavy smoke.
Hazardous decomposition products: carbon black. Health hazard.
Use appropriate respiratory protection.

5.3. Advice for firefighters

Use water spray jet to protect personnel and to cool endangered containers.
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Keep away from sources of ignition - No smoking. Ventilate affected area.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Safe handling: see section 7
Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up

Other information

Prevent spread over a wide area (e.g. by containment or oil barriers). Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Collect in closed and suitable containers for disposal.

The contaminated area should be cleaned up immediately with:
a mixture of 45% water, 50% ethanol or isopropyl alcohol, 5% concentrated ammonia solution (density 0.880) (Flammable)
Other:
a mixture of 95% water and 5% sodium carbonate (Non-flammable.)

Add the decontaminant to the remnants and let stand for several days in a non-sealed container until no further reaction is observed. Once reaction is finished, close container and dispose of.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be exposed to any process in which this product is used. Examination of lung function should be carried out on a regular basis

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on persons spraying this product.

Avoid release to the environment. In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop. Only use the material in places where open light, fire and other flammable sources can be kept away. Use explosion-proof electrical equipment. Filling and transfer: Take precautionary measures against static discharges. Provide earthing of containers, equipment, pumps and ventilation facilities. Wear anti-static footwear and clothing. Soils have to conform to the "Guidelines for avoidance of ignition hazards due to electrostatic charges (TRGS 727)". Use only antistatically equipped (spark-free) tools.

Never use pressure to empty container. Handle and open container with care. Keep/Store only in original container. Do not allow to enter into surface water or drains. Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

Avoid contact with skin, eyes and clothes. Avoid: Inhalation of vapours or spray/mists, Inhalation of dust/particles. When using do not eat, drink, smoke, sniff.

Advice on protection against fire and explosion

Solvent - Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Advice on general occupational hygiene

Harmful dust is produced during dry-state pulverisation. Do not subject to grinding. (Avoid dust formation.) If possible, dampen before cutting or drilling. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Persons already sensitised to diisocyanates may develop allergic reactions when using this product.

Draw up and observe skin protection programme.

Further information on handling

Conditions to avoid: Avoid contact with water. - Protect from moisture.

Carbon dioxide (CO₂) (chemical identity of the evolved gas). Due to gaseous decomposition products, overpressure can occur in tightly sealed containers.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Store in accordance with: Betriebssicherheitsverordnung (BetrSichV).

Hints on joint storage

Do not store together with: Oxidizing agent, Strong acid, Strong alkali, Amines, Water

Further information on storage conditions

Notice the directions for use on the label.

Keep container tightly closed in a cool, well-ventilated place. Protect from sunlight. Keep away from sources of ignition - No smoking.

Store in a place accessible by authorized persons only.

Always close containers tightly after the removal of product.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
28182-81-2	Hexamethylene-1,6-diisocyanate homopolymer			
Worker DNEL, acute		inhalation	local	1 mg/m ³
Worker DNEL, long-term		inhalation	local	0,5 mg/m ³
822-06-0	hexamethylene-di-isocyanate			
Worker DNEL, long-term		inhalation	local	0,035 mg/m ³
Worker DNEL, acute		inhalation	local	0,07 mg/m ³

PNEC values

CAS No	Substance	Value
28182-81-2	Hexamethylene-1,6-diisocyanate homopolymer	
Freshwater		0,127 mg/l
Freshwater sediment		266701 mg/kg
Marine sediment		26670 mg/kg
Micro-organisms in sewage treatment plants (STP)		88 mg/l
Soil		53183 mg/kg
822-06-0	hexamethylene-di-isocyanate	
Micro-organisms in sewage treatment plants (STP)		8,42 mg/l

Additional advice on limit values

Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be exposed to any process in which this product is used. Examination of lung function should be carried out on a regular basis on persons spraying this product.

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation.

If handled uncovered, arrangements with local exhaust ventilation should be used if possible.

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Safety precautions for operators (SPo): Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear eye protection/face protection.

Hand protection

Wear protective gloves. Replace when worn. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Observe the wear time limits as specified by the manufacturer.

Suitable material: butyl rubber or Viton (necessarily consider the permanence of the material and See information supplied by the manufacturer.)

Breakthrough time (maximum wearing time): ____ min.

Use protective skin cream before handling the product.

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Skin protection

Wear anti-static footwear and clothing (Natural fibres (e.g. cotton) / heat-resistant synthetic fibres)

Respiratory protection

Provide adequate ventilation. Combination filtering device (EN 14387).

Wear breathing apparatus if exposed to vapours/dusts/aerosols. Self-contained respirator (breathing apparatus) (DIN EN 133).

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	liquid
Colour:	colourless
Odour:	characteristic

Test method**Changes in the physical state**

Boiling point or initial boiling point and boiling range:	>150 °C
Flash point:	181 °C DIN 53213
Lower explosion limits:	NA
Auto-ignition temperature:	480 °C
Flow time: (at 20 °C)	> 100 6 DIN EN ISO 2431
Vapour pressure: (at 20 °C)	13,6 hPa
Density (at 20 °C):	1,14 g/cm ³ DIN 53217

9.2. Other information**Other safety characteristics**

Solvent separation test:	<3 % (Land transport (ADR/RID))
Solid content:	100,00 %

Further Information**SECTION 10: Stability and reactivity****10.1. Reactivity**Decomposes in contact with water. Carbon dioxide (CO₂) (chemical identity of the evolved gas)**10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Keep away from: Oxidizing agent, Amines, Alcohols, Water, Strong alkali, Strong acid

Due to gaseous decomposition products, overpressure can occur in tightly sealed containers. Closed containers may burst when pressure and temperature rise.

10.4. Conditions to avoid

In case of fire: May form hazardous decomposition products when exposed to high temperatures.

10.5. Incompatible materials

Exothermic reaction with: Alcohols, Amines

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10.6. Hazardous decomposition products

carbon black, Carbon monoxide, Carbon dioxide (CO₂), Nitrogen oxides (NO_x), Isocyanates, Amines, Alcohols, Hydrogen cyanide (hydrocyanic acid)

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Acute toxicity

Harmful if inhaled.

ATEmix calculated

ATE (inhalation vapour) 10,11 mg/l; ATE (inhalation dust/mist) 1,155 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
28182-81-2	Hexamethylene-1,6-diisocyanate homopolymer				
	oral	LD50 >2500 mg/kg	Rat		
	dermal	LD50 >2000 mg/kg	Rat		
	inhalation vapour	ATE 11 mg/l			
	inhalation (4 h) dust/mist	LC50 0,39 mg/l	Rat		OECD 403
822-06-0	hexamethylene-di-isocyanate				
	oral	LD50 959 mg/kg	Rat		
	dermal	LD50 >7000 mg/kg	Rat		
	inhalation (4 h) vapour	LC50 0,124 mg/l	Rat		
	inhalation dust/mist	ATE 0,005 mg/l			

Irritation and corrosivity

Based on available data, the classification criteria are not met.
Irritating to skin.

Sensitising effects

Contains isocyanates. May produce an allergic reaction. May cause an allergic skin reaction.
(Hexamethylene-1,6-diisocyanate homopolymer; hexamethylene-di-isocyanate)
People who suffer from skin sensitization problems, asthma, allergies, chronic or recurring respiratory illnesses should not be deployed in any process using this preparation.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

STOT-single exposure

May cause respiratory irritation. (Hexamethylene-1,6-diisocyanate homopolymer)

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.
Contains isocyanates. May produce an allergic reaction. Respiratory or skin sensitisation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Practical experience

Following inhalation:

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Adverse human health effects and symptoms: May cause respiratory irritation. May cause damage to liver if inhaled. May cause damage to kidneys if inhaled. Depression of central nervous system.

Symptoms: Headache, Dizziness, Drowsiness, Unconsciousness

After eye contact:

Irritating to eyes. (reversible.)

Following skin contact:

May be absorbed through the skin. Frequently or prolonged contact with skin may cause dermal irritation. Has degreasing effect on the skin.

Further information

There are no data available on the mixture itself.

Classification according to Regulation (EC) No 1272/2008 [CLP]

SECTION 12: Ecological information

12.1. Toxicity

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
28182-81-2	Hexamethylene-1,6-diisocyanate homopolymer					
	Acute fish toxicity	LC50 >=100 mg/l	96 h	Brachydanio rerio (zebra-fish)		
	Acute algae toxicity	ErC50 >1000 mg/l	72 h	Scenedesmus subspicatus		DIN 38412
	Acute crustacea toxicity	EC50 127 mg/l	48 h	Daphnia magna (Big water flea)		
	Acute bacteria toxicity	(EC50 3828 mg/l)	3 h	Activated sludge		OECD 209

12.2. Persistence and degradability

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
822-06-0	hexamethylene-di-isocyanate			
	OECD 301D	1%	28	

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
28182-81-2	Hexamethylene-1,6-diisocyanate homopolymer	8,38

BCF

CAS No	Chemical name	BCF	Species	Source
822-06-0	hexamethylene-di-isocyanate	367,7		

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

Further information

There are no data available on the mixture itself.

Do not allow to enter into surface water or drains.

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SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations**

Do not allow to enter into surface water or drains.

Suitable material for diluting or neutralizing: SECTION 6: Accidental release measures

Recycle according to official regulations.

List of Wastes Code - residues/unused products

080501 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes not otherwise specified in 08; waste isocyanates; hazardous waste

Contaminated packaging

Completely emptied packages can be recycled.

Recycle according to official regulations.

SECTION 14: Transport information**Land transport (ADR/RID)**

14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 75

2010/75/EU (VOC): 0%

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

National regulatory information

Water hazard class (D): 1 - slightly hazardous to water

Additional information

Observe in addition any national regulations!

SECTION 16: Other information**Changes**

This data sheet contains changes from the previous version in section(s): 2,11,15.

Abbreviations and acronyms

ADR - Accord européen relatif transport des marchandises dangereuses par route ATE - Acute Toxicity

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Estimate / Schätzwert akuter Toxizität; BCF - Biokonzentrationsfaktor (Bio-Concentration Factor); CAS - Chemical Abstracts Service; CLP - Regulation on Classification, Labelling and Packaging of Substances and Mixtures; CMR - Carcinogenität, Mutagenität, Reproduktionstoxizität; ECHA - European Chemicals Agency / Europäische Chemikalienagentur (in Helsinki); EC50 - Effective Concentration 50%; ErC50 - Average specific growth rate; EINECS - European Inventory of Existing Commercial Chemical Substances; DNEL - „Derived No-Effect Level“; IATA - International Air Transport Association; IMDG - International Maritime Dangerous Goods Code; LC50 - Lethal Concentration 50%; LD50 - Lethal dose 50%; NOAEC/L - No Observed Adverse Effect Concentration / Level; NOEC - No Observed Effect Concentration; OECD - Organization for Economic Cooperation and Development; PBT - Persistent, Bioaccumulative, Toxic (persistent, bioakkumulativ, toxisch); PNEC - Predicted No Effect Concentration; REACH - Registration, Evaluation and Authorization of Chemicals; RID - Règlement International concernant le transport de marchandises dangereuses par chemin de fer; SCL - Specific Concentration Level; STOT - Specific Target Organ Toxicity; SVHC - Stoff sehr hoher Besorgnis (Substance of Very High Concern); VOC - Volatile Organic Compounds; WGK - Wassergefährdungsklasse

Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Acute Tox. 4; H332	Calculation method
Skin Sens. 1; H317	Calculation method
STOT SE 3; H335	Calculation method

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
EUH204	Contains isocyanates. May produce an allergic reaction.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)