

Safety Data Sheet

according to Regulation (EC) No 1907/2006



Bergolin Härter 7D867

Revision date: 23.01.2020

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

1.1. Product identifier

Bergolin Härter 7D867

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

Uses advised against

No information available.

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	Telefax: 04795-95899-170
e-mail:	info@bergolin.de	
Contact person:	M. Gloede	Telephone: +49 541 93701-22
e-mail:	sdb@bergolin.de	
Internet:	www.bergolin.de	
Responsible Department:	Sicherheitsdatenblattverwaltung	

1.4. Emergency telephone number: +49 4795 95899 0
Only available during office hours. (8-16 CET)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:

Acute toxicity: Acute Tox. 4

Serious eye damage/eye irritation: Eye Irrit. 2

Respiratory or skin sensitisation: Skin Sens. 1

Specific target organ toxicity - single exposure: STOT SE 3

Hazard Statements:

Harmful if inhaled.

Causes serious eye irritation.

May cause an allergic skin reaction.

May cause respiratory irritation.

2.2. Label elements

Regulation (EC) No. 1272/2008

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.

H319 Causes serious eye irritation.

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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.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER/doctor if you feel unwell.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Special labelling of certain mixtures

EUH204 Contains isocyanates. May produce an allergic reaction.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Isocyanate in organic solvent

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
28182-81-2	Hexamethylene-1,6-diisocyanate homopolymer			75 - < 80 %
	500-060-2			
	Acute Tox. 4, Skin Sens. 1, STOT SE 3; H332 H317 H335			
108-32-7	propylene carbonate			20 - < 25 %
	203-572-1		01-2119537232-48	
	Eye Irrit. 2; H319			
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.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In all cases of doubt, or when symptoms persist, seek 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.
In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

Remove casualty to fresh air and keep warm and at rest.
Call a doctor if you feel unwell.
In case of irregular breathing or respiratory arrest provide artificial respiration. Call a physician immediately.

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After contact with skin

Take off immediately all contaminated clothing and wash it before reuse.
Wash with plenty of water/soap.
Do not wash with: Solvent/Thinner.
If skin irritation or rash occurs: Get medical advice/attention.

After contact with eyes

Protect uninjured eye. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice immediately.

After ingestion

If swallowed, rinse mouth with water (only if the person is conscious). Let water be drunk in little sips (dilution effect).
Call a physician immediately.
Put victim at rest, cover with a blanket and keep warm.
Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

No information available.

4.3. Indication of any immediate medical attention and special treatment needed

First Aid, decontamination, treatment of symptoms.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

alcohol resistant foam. Carbon dioxide. Powder. Water fog.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Burning produces heavy smoke.
Hazardous decomposition products: Danger of serious damage to health by prolonged exposure.
Use appropriate respiratory protection.

5.3. Advice for firefighters

Use water spray jet to protect personnel and to cool endangered containers.
In case of fire: Wear self-contained breathing apparatus. Special protective equipment for firefighters:
Protective equipment

Additional information

Do not allow water used to extinguish fire to enter drains or waterways. Dispose of waste according to applicable legislation.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Keep away from sources of ignition - No smoking. Ventilate affected area.
Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin, eyes and clothes.
Use personal protection equipment.
See protective measures under point 7 and 8.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.
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

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.

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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.

6.4. Reference to other sections

Disposal: see section 13

Personal protection equipment: see section 8

Safe handling: see section 7

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 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. Wear personal protection equipment.

Advice on protection against fire and explosion

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

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

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.

7.3. Specific end use(s)

No information available. No information available.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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
108-32-7	propylene carbonate			
Worker DNEL, long-term		inhalation	systemic	70,53 mg/m ³
Worker DNEL, long-term		inhalation	local	20 mg/m ³
Worker DNEL, long-term		dermal	systemic	20 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	17,4 mg/m ³
Consumer DNEL, long-term		inhalation	local	10 mg/m ³
Consumer DNEL, long-term		dermal	systemic	10 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	10 mg/kg bw/day

PNEC values

CAS No	Substance	Value
28182-81-2	Hexamethylene-1,6-diisocyanate homopolymer	
Environmental compartment		
Freshwater		0,127 mg/l
Freshwater (intermittent releases)		1,27 mg/l
Marine water		0,0127 mg/l
Freshwater sediment		2530 mg/kg
Marine sediment		253 mg/kg
Micro-organisms in sewage treatment plants (STP)		100 mg/l
Soil		505 mg/kg
108-32-7	propylene carbonate	
Freshwater		0,9 mg/l
Marine water		0,09 mg/l
Soil		0,81 mg/kg

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.

Protective and hygiene measures

Harmful dust is produced during dry-state pulverisation. Do not subject to grinding. (Avoid dust formation.) If

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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.

Make available sufficient washing facilities Provide eye shower and label its location conspicuously

Eye/face protection

Wear eye/face protection.

goggles, Eye glasses with side protection

Hand protection

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.

Suitable material: butyl rubber or Viton (necessarily consider the permanence of the material and See information supplied by the manufacturer.)EN ISO 374

In case of prolonged or frequently repeated skin contact: not determined

penetration time (maximum wearing period): not determined

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.

See information supplied by the manufacturer.

Protective gloves have to be replaced at the first sign of deterioration.

Protect skin by using skin protective cream.

Skin protection

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

Respiratory protection

Respiratory protection necessary at: exceeding exposure limit values

During spraying wear suitable respiratory equipment. Protective respiration apparatus not using surrounding air (breathing apparatus) (DIN EN 133).

Suitable respiratory protection apparatus: Combination filter A-P2

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

pH-Value:	not determined
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Changes in the physical state

Melting point:	not determined
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Initial boiling point and boiling range:	242 °C
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Flash point:	123 °C	DIN 53213
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Sustaining combustion:	No data available
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Flammability

Solid:	not determined
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Gas:	not determined
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Test method

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Explosive properties

No information available.

Lower explosion limits:	1,9 vol. %
Upper explosion limits:	32,5 vol. %
Ignition temperature:	430 °C

Auto-ignition temperature

Solid:	not determined
Gas:	not determined

Decomposition temperature: not determined

Oxidizing properties

No information available.

Vapour pressure: (at 20 °C)	0,04 hPa
Vapour pressure: (at 50 °C)	1,3 hPa

Density (at 20 °C): 1,18 g/cm³ DIN 53217

Water solubility: not determined

Solubility in other solvents

not determined

Partition coefficient: not determined

Viscosity / dynamic: not determined

Viscosity / kinematic: not determined

Flow time:
(at 23 °C) 34

Vapour density: not determined

Evaporation rate: not determined

Solvent separation test: <3 % (ADR/RID)

Solvent content: 20,00 %

9.2. Other information

Solid content: 80,00 %

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 warming: Thermal decomposition.

10.5. Incompatible materials

Exothermic reactions with: amines. Alcohols.

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10.6. Hazardous decomposition products

Carbon monoxide Carbon dioxide. Nitrogen oxides (NOx).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Harmful if inhaled.

ATEmix calculated

ATE (inhalation vapour) 13,06 mg/l; ATE (inhalation aerosol) 1,173 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) aerosol	LC50 0,39 mg/l	Rat		OECD 403
108-32-7	propylene carbonate				
	oral	LD50 34600 mg/kg	Rat	GESTIS	
	dermal	LD50 > 23800 mg/kg	Rabbit	GESTIS	
822-06-0	hexamethylene-di-isocyanate				
	oral	LD50 959 mg/kg	Rat		
	dermal	LD50 >7000 mg/kg	Rat		
	inhalation (4 h) vapour	LC50 0,4 mg/l	Rat		
	inhalation aerosol	ATE 0,005 mg/l			

Irritation and corrosivity

Causes serious eye irritation.

Skin corrosion/irritation: 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.

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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

Observations relevant to classification

Following inhalation:

May cause respiratory irritation. Potential hazards: Liver and kidney damage. Depression of the central nervous system. Symptoms: Headache. Dizziness. Causes drowsiness or dizziness. unconsciousness.

After skin contact:

The product is skin resorptive. Prolonged/repetitive skin contact may cause skin defatting or dermatitis.

Following eye contact:

Irritating to eyes. (reversible.)

Other observations

Isocyanate containing product.

Respiratory or skin sensitisation/Irritant effect on the respiratory tract: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Prolonged/repetitive skin contact may cause skin defatting or dermatitis.

People who suffer from skin sensitization problems, asthma, allergies, chronic or recurring respiratory illnesses should not be deployed in any process using this preparation.

Further information

There are no data available on the preparation/mixture itself. Calculation method.

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 mg/l	>=100	96 h	Brachydanio rerio (zebra-fish)	
	Acute algae toxicity	ErC50 mg/l	>1000	72 h	Scenedesmus subspicatus	DIN 38412
	Acute crustacea toxicity	EC50	127 mg/l	48 h	Daphnia magna (Big water flea)	
	Acute bacteria toxicity	(3828 mg/l)		3 h	Activated sludge	OECD 209
108-32-7	propylene carbonate					
	Acute fish toxicity	LC50 mg/l	>1000	96 h	Cyprinus carpio	
	Acute crustacea toxicity	EC50 mg/l	>1000	48 h	Daphnia magna	

12.2. Persistence and degradability

Some of the components are poorly biodegradable.

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

12.3. Bioaccumulative potential

No further relevant information available.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
28182-81-2	Hexamethylene-1,6-diisocyanate homopolymer	8,38
108-32-7	propylene carbonate	-0,41

BCF

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

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

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

12.6. Other adverse effects

No information available.

Further information

There are no data available on the preparation/mixture itself.

Do not allow to enter into surface water or drains.

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. Hazardous waste according to Directive 2008/98/EC (waste framework directive). The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

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.

Remove according to the regulations.

SECTION 14: Transport information

Land transport (ADR/RID)

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

Other applicable information (land transport)

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.

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Other applicable information (marine transport)

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.

Other applicable information (air transport)

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. Transport in bulk according to Annex II of Marpol and the IBC Code

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

2004/42/EC (VOC): 20 % (236 g/l)

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

National regulatory information

Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

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

Additional information

Observe in addition any national regulations!

SECTION 16: Other information

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Acute Tox. 4; H332	Calculation method
Eye Irrit. 2; H319	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 above information describes exclusively the safety requirements of the product and is based on our

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present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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