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

1.1. Product identifier

Bergodur-Härter 7D810

Product group:	Produkt
UFI:	484P-SX0A-HVJ7-JHYF

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
e-mail:	info@bergolin.de
Contact person:	Gefahrstoffmanagement
e-mail:	sdb@bergolin.de
Internet:	www.bergolin.de
Responsible Department:	Sicherheitsdatenblattverwaltung

1.4. Emergency telephone number:

+49 4795 95899 0

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

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

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

Hexamethylene-1,6-diisocyanate homopolymer

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.

Special labelling of certain mixtures

EUH204 Contains isocyanates. May produce an allergic reaction.

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Aliphatic Polyisocyanate

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
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			< 0.1 %
	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	< 0.1 %
	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

First aider: Pay attention to self-protection!

Change contaminated, saturated clothing.

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.

If breathing is irregular or stopped, administer artificial respiration. Call a physician immediately.

After contact with skin

Immediately remove any contaminated clothing, shoes or stockings. And wash it before reuse.
After contact with skin, wash immediately with plenty of water and soap.
Do not wash with: Solvents/Thinner. If skin irritation or rash occurs: Get medical advice/attention.

After contact with eyes

Protect uninjured eye. 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.

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.

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 (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: 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

General advice

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

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.

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.

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.
Make available sufficient washing facilities

Draw up and observe skin protection programme.

Further information on handling

Conditions to avoid: Avoid contact with water. - Protect from moisture.
Carbon dioxide (CO_2) (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.

7.3. Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

CAS No	Substance	ppm	mg/m³	fib/cm³	Category	Origin
822-06-0	Hexamethylene diisocyanate (as -NCO)	0.005	-		TWA (8 h)	

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
28182-81-2	Hexamethylene-1,6-diisocyanate homopolymer			
Worker DNEL, acute		inhalation	local	1 mg/m³
Worker DNEL, long-term		inhalation	local	0,5 mg/m³
822-06-0	hexamethylene-di-isocyanate			
Worker DNEL, long-term		inhalation	local	0,035 mg/m³
Worker DNEL, acute		inhalation	local	0,07 mg/m³

PNEC values

CAS No	Substance	
Environmental compartment		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. 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: rubair búitileach nó Viton (is gá go mbeadh resistance ar an ábhar agus 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

Only wear fitting, comfortable and clean protective clothing. 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: Scagtha teaglaim A-P2
Chun obair i bpótaí agus umair: Scagtha teaglaim A-P4

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		
Melting point/freezing point:	not determined	
Boiling point or initial boiling point and boiling range:	>150 °C	
Flash point:	> 100 °C	DIN 53213
Flammability		
Solid/liquid:	not determined	
Gas:	not determined	

Explosive properties
No information available.

Auto-ignition temperature:	440 °C	
Self-ignition temperature		
Solid:	not determined	
Gas:	not determined	
Decomposition temperature:	not determined	
pH-Value:	not determined	
Viscosity / dynamic:	not determined	
Viscosity / kinematic:	not determined	
Flow time: (at 20 °C)	67	6 DIN EN ISO 2431
Water solubility:	not determined	

Solubility in other solvents
not determined

Partition coefficient n-octanol/water:	not determined	
Vapour pressure: (at 20 °C)	<0,0001 hPa	
Density (at 20 °C):	1,15 g/cm³	DIN 53217
Relative vapour density:	not determined	

9.2. Other information

Sustaining combustion:	No data available

Oxidizing properties
No information available.

Solvent separation test:	<3 % (Land transport (ADR/RID))
Solid content:	100,00 %
Evaporation rate:	not determined

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

10.6. Hazardous decomposition products

Carbon monoxide Carbon dioxide. Nitrogen oxides (NOx).

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Harmful if inhaled.

ATEmix calculated

ATE (inhalation vapour) 11,01 mg/l; ATE (inhalation dust/mist) 1,501 mg/l

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

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:
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 preparation/mixture itself.

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

Some of the components are poorly biodegradable.

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

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

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.

12.7. Other adverse effects

No information available.

Further information

There are no data available on the 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.
Remove according to the 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.
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.

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.

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!

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

Changes

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

Abbreviations and acronyms

ADR - Accord européen relatif transport des merchandises dangereuses par route ATE - Acute Toxicity 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 Regulation (EC) No. 1272/2008 [CLP]

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.)