BAYHYDUR ultra 305 112000067425

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

1.1 Product identifier

BAYHYDUR ULTRA 305

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

Use:
Hardener for coating materials or adhesives for industrial and trade applications

Uses advised against:
Not suitable for use in homeworker (DIY) applications.

1.3 Details of the supplier of the safety data sheet

Covestro Deutschland AG
COV-CTO-HSEQ-PSRA-PSI
51365 Leverkusen

Tel.: +49 214 6009 4068
Email: ProductSafetyEMLA@covestro.com

1.4 Emergency telephone number

+49 214 30 99300 (Sicherheitszentrale Currenta)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Acute toxicity, Inhalative, Category 4 (H332)
Sensitization of the skin, Sub-category 1B (H317)
Specific target organ toxicity (single exposure), Category 3 (H335)
Chronically hazardous to the aquatic environment, Category 3 (H412)

2.2 Label elements

Warning

Hazardous components which must be listed on the label
hydrophilic aliphatic polyisocyanate
CAS-No.160994-68-3

Hazard statements:
H317 May cause an allergic skin reaction.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P273 Avoid release to the environment.

P280 Wear protective gloves.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

Type of product: Substance

3.1 Substances

hydrophilic aliphatic polyisocyanate

Hazardous components

hydrophilic aliphatic polyisocyanate
Concentration [wt.-%]: ca. 100
CAS-No.: 160994-68-3
Classification (1272/2008/CE): Acute Tox. 4 Inhalative H332 Skin Sens. 1B H317 STOT SE 3 H335 Aquatic Chronic 3 H412

This contains:

Hexamethylene-1,6-diisocyanate
Concentration [wt.-%]: < 0,1
Index-No.: 615-011-00-1
REACH Registration Number: 01-2119457571-37-0000, 01-2119457571-37-0005, 01-2119457571-37-0006
CAS-No.: 822-06-0
Classification (1272/2008/CE): Acute Tox. 4 Oral H302 Acute Tox. 1 Inhalative H330 Skin Irrit. 2 H315 Eye Irrit. 2 H319 Resp. Sens. 1 H334 Skin Sens. 1 H317 STOT SE 3 H335
Specific threshold concentration:

Resp. Sens. 1	H334	>= 0,5 %
Skin Sens. 1	H317	>= 0,5 %

The polymer or the polymers including their impurities are exempted from the provisions on registration according to article 2(9) of the REACH Regulation (EC) No 1907/2006, hence no annex is provided. The necessary information about operational conditions and Risk Management Measures (RMM) can be found in section 8 of this SDS.

Candidate List of Substances of Very High Concern for Authorisation
This product contains no substances of very high concern in concentrations where an information obligation applies (REACH Regulation (EC) No. 1907/2006, Article 59).

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice: Take off all contaminated clothing immediately.

If inhaled: Take the person into the fresh air and keep him warm, let him rest; if there is difficulty in breathing, medical advice is required.

In case of skin contact: In case of skin contact wash affected areas thoroughly with soap and plenty of water. Consult a doctor in the event of a skin reaction.

In case of eye contact: Hold the eyes open and rinse with preferably lukewarm water for a sufficiently long period of time (at least 10 minutes). Contact an ophthalmologist.

If swallowed: DO NOT induce the patient to vomit, medical advice is required.

4.2 Most important symptoms and effects, both acute and delayed

Notes to physician: Basic first aid, decontamination, symptomatic treatment.

4.3 Indication of any immediate medical attention and special treatment needed

Therapeutic measures: No information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Carbon dioxide (CO2), Foam, extinguishing powder, in cases of larger fires, water spray should be used.

Unsuitable extinguishing media: High volume water jet

5.2 Special hazards arising from the substance or mixture

Burning releases carbon monoxide, carbon dioxide, oxides of nitrogen, isocyanate vapors and traces of hydrogen cyanide. In the event of fire and/or explosion do not breathe fumes.

5.3 Advice for fire-fighters

During fire-fighting respirator with independent air-supply and airtight garment is required.

Do not allow contaminated extinguishing water to enter the soil, ground-water or surface waters.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Put on protective equipment (see section 8). Ensure adequate ventilation/exhaust extraction. Keep unauthorized persons away.

6.2 Environment related measures

Do not allow to escape into waterways, wastewater or soil.

6.3 Methods and material for containment and cleaning up

Remove mechanically; cover the remainder with wet, absorbent material (e.g. sawdust, chemical binder based on calcium silicate hydrate, sand). After approx. one hour transfer to waste container and do not seal (evolution of CO2!). Keep damp in a safe ventilated area for several days.

6.4 Reference to other sections

For further disposal measures see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provide sufficient air exchange and/or exhaust in work rooms. Exhaust ventilation necessary if product is sprayed.

The threshold limit values noted in section 8 must be monitored. In all areas where isocyanate aerosols and/or vapor concentrations are produced in elevated concentrations, exhaust ventilation must be provided in

such a way that the workplace exposure limits (WEL) is not exceeded. The air should be drawn away from the personnel handling the product

The personal protective measures described in section 8 must be observed. The precautions required in the handling of isocyanates must be taken. Avoid contact with skin and eyes and the inhalation of vapor.

Keep away from foodstuffs, drinks and tobacco. Wash hands before breaks and at end of work and use skin-protecting ointment. Keep working clothes separately. Take off all contaminated clothing immediately.

7.2 Conditions for safe storage, including any incompatibilities

Keep container dry and tightly closed in a cool and well ventilated place. Further information on the storage conditions which must be observed to preserve quality can be found in our product information sheet.

Storage class (TRGS 510) : 10: Combustible liquids

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

No information on Exposure Limit Values necessary according to EC directive 2006/121/EG

Exposition assessment value (EBW) per TGRS 430:Polyisocyanate content (HDI oligomers and/or prepolymers) 100 %. Use an exposition assessment value of 0,5 mg/m³.

The regulations for the substances listed below must be observed when processing this product, particularly if processing takes place at elevated temperatures.

Substance	CAS-No.	Basis	Type	Value	Ceiling Limit Value	Remarks
Hexamethylene-1,6-diisocyanate	822-06-0	TRGS 900				Listed.
Hexamethylene-1,6-diisocyanate	822-06-0	TRGS 900		0,005 ppm 0,035 mg/m3	=2=	
Hexamethylene-1,6-diisocyanate	822-06-0	TRGS 900	STEL CL			Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages.
Hexamethylene-1,6-diisocyanate	822-06-0	TRGS 900	STEL FAC		1	Substance listed with both Peak factor and STEL factor. The Peak factor is supplied with the AGW values.

Derived No Effect Level (DNEL)

hydrophilic aliphatic polyisocyanate

Value type	Route of exposure	Health Effects	Value	Remarks
				not required

8.2 Exposure controls

Respiratory protection
Respiratory protection required in insufficiently ventilated working areas and during spraying. An air-fed mask, or for short periods of work, a combination of charcoal filter and particulate filter A2-P2 is recommended.

In case of hypersensitivity of the respiratory tract and skin (e.g. asthmatics and those who suffer from chronic bronchitis and chronic skin complaint) it is inadvisable to work with the product.

Hand protection
Suitable materials for safety gloves; EN 374:
Butyl rubber - IIR: thickness >=0,5mm; breakthrough time >=480min.
Fluorinated rubber - FKM: thickness >=0,4mm; breakthrough time >=480min.
Recommendation: contaminated gloves should be disposed of.

Eye protection
Wear eye/face protection.

Skin and body protection
Wear suitable protective clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:	liquid	
Colour:	colourless to yellowish	
Odour:	almost odourless	
Odour Threshold:	not established	
pH:	not measurable	
Pour point:	ca. -18 °C	ISO 3016
Boiling point/boiling range:	ca. 300 °C	DIN 53171
Flash point:	ca. 230 °C	DIN 53213
Evaporation rate:	not established	
Flammability (solid, gas):	not applicable	
Burning number:	not applicable	
Vapour pressure:	ca. 15 hPa at 50 °C	EG A4
	ca. 12 hPa at 20 °C	EG A4
	ca. 16 hPa at 55 °C	EG A4
Vapour pressure of ingredients:		
Hexamethylene-1,6-diisocyanate	ca. 0,007 hPa at 20 °C	
Hexamethylene-1,6-diisocyanate Homopolymer	< 0,0001 hPa at 20 °C (vapor pressure balance/OECD No.104)	
Vapour density:	not established	
Density:	ca. 1,16 g/cm³ at 20 °C	DIN 53217
Miscibility with water:	immiscible at 15 °C	
Surface tension:	not established	
Partition coefficient (n−octanol/water):	not established	
Auto-ignition temperature:	not applicable	
Ignition temperature:	ca. 435 °C	DIN 51794
Decomposition temperature:	not established	
Viscosity, dynamic:	ca. 6.500 mPa.s at 23 °C	DIN EN ISO 3219/A.3
Explosive properties:	not established	
Dust explosion class:	not applicable	
Oxidising properties:	not established	

9.2 Other information

The indicated values do not necessarily correspond to the product specification. Please refer to the technical information sheet for specification data.

SECTION 10: Stability and reactivity

10.1 Reactivity

This information is not available.

10.2 Chemical stability

This information is not available.

10.3 Possibility of hazardous reactions

Exothermic reaction with amines and alcohols; reacts slowly with water forming CO2, in closed containers risk of bursting owing to increase of pressure.

10.4 Conditions to avoid

This information is not available.

10.5 Incompatible materials

This information is not available.

10.6 Hazardous decomposition products

No hazardous decomposition products when stored and handled correctly.

SECTION 11: Toxicological information

Please find below the data available to us:

11.1 Information on toxicological effects

Acute toxicity, oral
hydrophilic aliphatic polyisocyanate
LD50 rat: > 2.000 mg/kg
Studies of a comparable product.

Acute toxicity, dermal
hydrophilic aliphatic polyisocyanate
LD50 rat, male/female: > 2.000 mg/kg
Method: OECD Test Guideline 402
Studies of a comparable product.

Acute toxicity, inhalation
hydrophilic aliphatic polyisocyanate
LC50 rat, female: 0,390 mg/l, 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Studies of a comparable product.

The test atmosphere generated in the animal study is not representative of workplace environments, how the substance is placed on the market, and how it can reasonably be expected to be used. Therefore the test result cannot be directly applied for the purpose of assessing hazard. Based on expert judgment and the weight of the evidence, a modified classification for acute inhalation toxicity is justified.

Converted acute toxicity point estimate 1,5 mg/l
Test atmosphere: dust/mist
Method: Expert judgement

Assessment: Harmful if inhaled.

Primary skin irritation
hydrophilic aliphatic polyisocyanate
Species: rabbit
Result: slight irritant
Classification: No skin irritation
Method: OECD Test Guideline 404
Studies of a comparable product.

Primary mucosae irritation

hydrophilic aliphatic polyisocyanate
Species: rabbit
Result: slight irritant
Classification: No eye irritation
Method: OECD Test Guideline 405
Studies of a comparable product.

Sensitisation
hydrophilic aliphatic polyisocyanate
Respiratory sensitization

Classification: No classification according to EC Directives 2006/121/EC or 1999/45/EC as respiratory sensitizer.
No pulmonary sensitisation observed in animal tests.
No pulmonary sensitisation potential was observed in guinea pigs after either intradermal or inhalative induction with polyisocyanate based on hexamethylene diisocyanate.

Skin sensitisation according to Magnusson/Kligmann (maximizing test):
Species: Guinea pig
Result: positive
Classification: May cause sensitization by skin contact (Sub cat. 1B)
Method: OECD Test Guideline 406
Studies of a comparable product.

Subacute, subchronic and prolonged toxicity
hydrophilic aliphatic polyisocyanate
no data available

Carcinogenicity
hydrophilic aliphatic polyisocyanate
No data available.

Reproductive toxicity/Fertility
hydrophilic aliphatic polyisocyanate
No data available.

Reproductive toxicity/Teratogenicity
hydrophilic aliphatic polyisocyanate
No data available.

Genotoxicity in vitro
hydrophilic aliphatic polyisocyanate
Test type: Salmonella/microsome test (Ames test)
Result: No indication of mutagenic effects.
Method: OECD Test Guideline 471
Studies of a comparable product.

Genotoxicity in vivo
hydrophilic aliphatic polyisocyanate
No data available.

STOT evaluation – one-time exposure
hydrophilic aliphatic polyisocyanate
May cause respiratory irritation.
Studies of a comparable product.

STOT evaluation – repeated exposure
hydrophilic aliphatic polyisocyanate
Based on available data, the classification criteria are not met.

Aspiration toxicity

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

CMR Assessment
hydrophilic aliphatic polyisocyanate
Carcinogenicity: No data available.
Mutagenicity: Based on available data, the classification criteria are not met.
Teratogenicity: No data available.
Reproductive toxicity/Fertility: No data available.

Additional information
Special properties/effects: Over-exposure, especially when spraying coatings containing isocyanate without the necessary precautions, entails the risk of concentration-dependent irritating effects on eyes, nose throat, and respiratory tract. Delayed appearance of the complaints and development of hypersensitivity (difficult breathing, coughing, asthma) are possible. Hypersensitive persons may suffer from these effects even at low isocyanate concentrations, including concentrations below the occupational exposure limit. Prolonged contact with the skin may cause tanning and irritant effects.

Animal tests and other research indicate that skin contact with diisocyanates can play a role in causing isocyanate sensitization and respiratory reaction.

SECTION 12: Ecological information

Do not allow to escape into waterways, wastewater or soil.

Please find below the data available to us:

12.1 Toxicity

Acute Fish toxicity
hydrophilic aliphatic polyisocyanate
LC50 28,3 mg/l
Species: Danio rerio (zebra fish)
Exposure duration: 96 h
Method: OECD Test Guideline 203
Studies of a comparable product.

Chronic Fish toxicity
hydrophilic aliphatic polyisocyanate
No data available.

Acute toxicity for daphnia
hydrophilic aliphatic polyisocyanate
EC50 > 100 mg/l
Species: Daphnia magna (Water flea)
Exposure duration: 48 h
Method: OECD Test Guideline 202
Studies of a comparable product.

Chronic toxicity to daphnia
hydrophilic aliphatic polyisocyanate
no data available

Acute toxicity for algae
hydrophilic aliphatic polyisocyanate
ErC50 > 100 mg/l
Species: scenedesmus subspicatus
Exposure duration: 72 h
Method: OECD Test Guideline 201
Studies of a comparable product.

Acute bacterial toxicity
hydrophilic aliphatic polyisocyanate
EC50 > 10.000 mg/l
Species: activated sludge
Method: OECD Test Guideline 209
Studies of a comparable product.

12.2 Persistence and degradability

Biodegradability
hydrophilic aliphatic polyisocyanate
Biodegradation: 2 %, 28 d, i.e. not readily degradable
Method: OECD Test Guideline 301 F
Studies of a comparable product.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

hydrophilic aliphatic polyisocyanate
No data available.

12.6 Other adverse effects

Isocyanate reacts with water at the interface forming CO2 and a solid insoluble product with high melting point (polyurea). This reaction is accelerated by surfactants (e.g. detergents) or by watersoluble solvents. Previous experience shows that polyurea is inert and non-degradable.

SECTION 13: Disposal considerations

Dispose in accordance with applicable international, national and local laws, ordinances and statutes. For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.

13.1 Waste treatment methods

After final product withdrawal, all residues must be removed from containers (drip-free, powder-free or paste-free). Once the product residues adhering to the walls of the containers have been rendered harmless, the product and hazard labels must be invalidated. These containers can be returned for recycling to the appropriate centres set up within the framework of the existing take-back scheme of the chemical industry. Containers must be recycled in compliance with national legislation and environmental regulations.

None disposal into waste water.

SECTION 14: Transport information

ADR/RID

14.1 UN number	:	Not dangerous goods
14.2 UN proper shipping name	:	Not dangerous goods
14.3 Transport hazard class(es)	:	Not dangerous goods
14.4 Packing group	:	Not dangerous goods
14.5 Environmental hazards	:	Not dangerous goods

ADN

14.1 UN number	:	Not dangerous goods
14.2 UN proper shipping name	:	Not dangerous goods
14.3 Transport hazard class(es)	:	Not dangerous goods
14.4 Packing group	:	Not dangerous goods
14.5 Environmental hazards	:	Not dangerous goods

IATA

14.1 UN number	:	Not dangerous goods
14.2 UN proper shipping name	:	Not dangerous goods
14.3 Transport hazard class(es)	:	Not dangerous goods
14.4 Packing group	:	Not dangerous goods
14.5 Environmental hazards	:	Not dangerous goods

IMDG

14.1 UN number	:	Not dangerous goods
14.2 UN proper shipping name	:	Not dangerous goods
14.3 Transport hazard class(es)	:	Not dangerous goods
14.4 Packing group	:	Not dangerous goods
14.5 Environmental hazards	:	Not dangerous goods

14.6 Special precautions for user

See section 6 - 8.

Additional information	:	Not dangerous cargo. Keep dry. Avoid heat above +50 °C. Avoid temperatures below -15 °C. Keep away from foodstuffs, acids and alkalis.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances.
not applicable

TA Luft List (Germany)
Type: Organic Substances
Fraction of other substances: 100 %

Water contaminating class (Germany)
1 slightly water endangering
Classification according to AwSV, Annex 1 (5.2)

Any existing national regulations on the handling of isocyanates must be observed.

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has not been conducted for this substance / mixture resp. its components.

SECTION 16: Other information

Full text of the hazard statements of the CLP classification (1272/2008/CE) referred to under sections 2, 3 and 10.

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.
H412	Harmful to aquatic life with long lasting effects.

The product is used mainly as a hardener in coating materials or adhesives. The handling of coating materials or adhesives containing reactive polyisocyanates and residual monomeric HDI requires appropriate protective measures referred to in this safety data sheet. These products may therefore be used only in industrial or trade applications. They are not suitable for use in homeworker (DIY) applications.

No registration number is given for this substance because the substance or its use are exempt from registration according to article 2 of the Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is planned for a later date.

Further information
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.