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

1.1. Product identifier

Universal Primer 2K, Component B

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

Use of the substance/mixture

2-component Primer / Adhesion promotor

Uses advised against

Do not use for injecting or spraying.

1.3. Details of the supplier of the safety data sheet

Company name:	ENKE-Werk Johannes Enke GmbH & Co. KG	
Street:	Hamburger Str. 16	
Place:	D-40221 Düsseldorf - Germany	
Telephone:	+49(0)211/ 30 40 74	Telefax: +49(0)211/ 39 37 18
e-mail:	info@enke-werk.de	
e-mail (Contact person):	labor@enke-werk.de	
Internet:	www.enke-werk.de/en	
Responsible Department:	On weekdays between 7 a.m. and 4 p.m. +49 (0) 211/ 30 40 74	

1.4. Emergency telephone number:

Emergency CONTACT (24-Hour-Number): GBK GmbH +49 (0) 6132-84463

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Flam. Liq. 3; H226
Acute Tox. 4; H312
Acute Tox. 4; H332
Asp. Tox. 1; H304
Skin Irrit. 2; H315
Eye Irrit. 2; H319
Skin Sens. 1; H317
STOT SE 3; H335
STOT RE 2; H373

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Hazard components for labelling

Xylene
Hexamethylene diisocyanate, oligomerization
hexamethylene-di-isocyanate

Signal word: Danger

Pictograms:

Hazard statements

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.

H312+H332	Harmful in contact with skin or if inhaled.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

P101	If medical advice is needed, have product container or label at hand.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P331	Do NOT induce vomiting.
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

Mixture based on an aliphatic polyisocyanates-prepolymer

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
1330-20-7	Xylene			70 - 90 %
	215-535-7		01-2119488216-32	
	Flam. Liq. 3, Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3, STOT RE 2, Asp. Tox. 1; H226 H332 H312 H315 H319 H335 H373 H304			
28182-81-2	Hexamethylene diisocyanate, oligomerization			20 - 25 %
	500-060-2		01-2119488177-26	
	Acute Tox. 3, Skin Sens. 1, STOT SE 3; H331 H317 H335			
822-06-0	hexamethylene-di-isocyanate			< 0.1 %
	212-485-8	615-011-00-1		
	Acute Tox. 3, Skin Irrit. 2, Eye Irrit. 2, Resp. Sens. 1, Skin Sens. 1, STOT SE 3; H331 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		
1330-20-7	215-535-7	Xylene	70 - 90 %
	inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: ATE = 1100 mg/kg		
28182-81-2	500-060-2	Hexamethylene diisocyanate, oligomerization	20 - 25 %
	inhalation: LC50 = 0,51 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 5665 mg/kg		
822-06-0	212-485-8	hexamethylene-di-isocyanate	< 0.1 %
	inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists) 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

Take off immediately all contaminated clothing and wash it before reuse.

After inhalation

Provide fresh air. When in doubt or if symptoms are observed, get medical advice.

After contact with skin

Take up mechanically. After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap. If skin irritation or rash occurs: Get medical advice/attention.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

After ingestion

Rinse mouth immediately and drink 1 glass of of water. Do NOT induce vomiting. Aspiration hazard! Call a physician in any case!

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

Treat symptomatically. Do NOT induce vomiting. Aspiration hazard!

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Powder, Foam, Water spray jet, Carbon dioxide (CO2).

5.2. Special hazards arising from the substance or mixture

Flammable. Vapours can form explosive mixtures with air. In case of fire may be liberated: Carbon monoxide, Nitrogen oxides (NOx); Possible in traces: Isocyanates, Hydrogen cyanide (hydrocyanic acid)

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. 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

Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Danger of explosion

6.3. Methods and material for containment and cleaning up

Other information

Take up mechanically. Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). 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. Due to gaseous decomposition products, overpressure can occur in tightly sealed containers. Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Do not use for injecting or spraying.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Vapours can form explosive mixtures with air.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Further information on storage conditions

maximum storage temperature: 30°C

7.3. Specific end use(s)

2-component Primer / Adhesion promotor

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
1330-20-7	Xylene: mixed isomers	50	220		TWA (8 h)	WEL
		100	441		STEL (15 min)	WEL

Biological Monitoring Guidance Values (EH40)

CAS No	Substance	Parameter	Value	Test material	Sampling time
1330-20-7	Xylene, o-, m-, p- or mixed isomers	methyl hippuric acid (creatinine)	650 mmol/mol	urine	Post shift

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
28182-81-2	Hexamethylene diisocyanate, oligomerization			
Worker DNEL, long-term		inhalation	local	0,35 mg/m³
Worker DNEL, acute		inhalation	local	0,7 mg/m³

PNEC values

CAS No	Substance
Environmental compartment	Value
28182-81-2	Hexamethylene diisocyanate, oligomerization
Freshwater	> 0,05 mg/l
Marine water	> 0,005 mg/l
Freshwater sediment	> 1,33 mg/kg
Marine sediment	> 0,133 mg/kg
Micro-organisms in sewage treatment plants (STP)	55,6 mg/l
Soil	> 0,066 mg/kg

8.2. Exposure controls

Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection: goggles.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. 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.

Our recommendation is as follows: Suitable materials for prolonged, direct contact (at least protection index 6, corresponding to> 480 minutes permeation time according to EN 374): Neoprene®, Viton®, PVC, butyl or nitrile rubber. Dispose of contaminated gloves. With proper, optimized operation, only short-term contact and liquid splashes are to be expected, therefore, according to DGUV Information 212-007, a glove with a minimum protection class of 1 (<10 min permeation time) is sufficient. It must be ensured that the gloves are changed at short notice in case of chemical contact.

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Fresh air mask. Short term filler device: A2 - P2.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	colourless
Odour:	characteristic

Changes in the physical state

Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	~ 140 °C
Flash point:	~ 30 °C

Flammability

Solid/liquid:	not applicable
Lower explosion limits:	1,0 vol. %
Upper explosion limits:	8,0 vol. %
Auto-ignition temperature:	~ 480 °C

Self-ignition temperature

Solid:	not applicable
Gas:	not applicable
Decomposition temperature:	not determined
pH-Value:	not determined
Viscosity / dynamic: (at 20 °C)	20 - 30 mPa·s
Water solubility:	The study does not need to be conducted because the substance is known to be insoluble in water.

Solubility in other solvents

not determined

Partition coefficient n-octanol/water:	not determined
Vapour pressure: (at 20 °C)	0,5 - 1,0 hPa
Density (at 20 °C):	0,87 g/cm³
Relative vapour density:	not determined

9.2. Other information

Information with regard to physical hazard classes

Oxidizing properties

Not oxidising.

Other safety characteristics

Solid content:	not determined
Evaporation rate:	not determined

Further Information

SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable, Ignition hazard.

Reacts with : Amines, Alcohols and Water

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures. Above 90 °C can be released traces of hexamethylene diisocyanate.

10.3. Possibility of hazardous reactions

Vapours can form explosive mixtures with air.
Exothermic reaction with: Amines, Alcohols and Water
Reaction with water or humidity may form CO2. Risk of bursting!

10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

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

Acute toxicity

Harmful in contact with skin.
Harmful if inhaled.

ATEmix calculated

ATE (dermal) 1428,6 mg/kg; ATE (inhalation vapour) 14,29 mg/l; ATE (inhalation dust/mist) 1,037 mg/l

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
1330-20-7	Xylene					
	dermal	ATE mg/kg	1100			
	inhalation vapour	ATE	11 mg/l			
	inhalation dust/mist	ATE	1,5 mg/l			
28182-81-2	Hexamethylene diisocyanate, oligomerization					
	oral	LD50 mg/kg	> 5665	Rat	OECD 401	
	dermal	LD50 mg/kg	> 2000	Rat		
	inhalation (4 h) dust/mist	LC50	0,51 mg/l	Rat	OECD 403	
822-06-0	hexamethylene-di-isocyanate					
	inhalation vapour	ATE	3 mg/l			
	inhalation dust/mist	ATE	0,5 mg/l			

Irritation and corrosivity

Causes skin irritation.
Causes serious eye irritation.

Sensitising effects

Contains isocyanates. May produce an allergic reaction.May cause an allergic skin reaction. (Hexamethylene diisocyanate, oligomerization; hexamethylene-di-isocyanate)

Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

May cause respiratory irritation. (Xylene; Hexamethylene diisocyanate, oligomerization)

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure. (Xylene)

Aspiration hazard

May be fatal if swallowed and enters airways.

Additional information on tests

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

Further information

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

SECTION 12: Ecological information

12.1. Toxicity

The product is not: Ecotoxic.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] | [d]	Species	Source	Method
28182-81-2	Hexamethylene diisocyanate, oligomerization					
	Acute fish toxicity	LC50 > 100 mg/l	96 h	Danio rerio (zebrafish)		
	Acute algae toxicity	ErC50 > 50 - < 100 mg/l	72 h	Scenedesmus subspicatus		
	Acute crustacea toxicity	EC50 > 100 mg/l	48 h	Daphnia magna (Big water flea)		
	Acute bacteria toxicity	(EC50 5560 mg/l)		Activated sludge		OECD 209

12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
28182-81-2	Hexamethylene diisocyanate, oligomerization			
	Richtlinie 67/548/EWG, Anhang V, C.4.E.	1 %	21	Testtyp: aerob
	Not readily biodegradable			
	OECD- Prüfrichtlinie 302 C	18 %	28	Testtyp: aerob
	nicht potentiell abbaubar			

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
28182-81-2	Hexamethylene diisocyanate, oligomerization	6,62

12.4. Mobility in soil

The product has not been tested.

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.

12.7. Other adverse effects

No information available.

Further information

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

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.
Containers have to be emptied completely and free of drops after final product removal. Emptied packages can be returned to the partners of Kreislaufsystem Blechverpackungen Stahl (Recycling system for metal containers).
Collection points are provided by the ENKE company as user of the mark.

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

List of Wastes Code - used product

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

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 1263
14.2. UN proper shipping name:	Paint
14.3. Transport hazard class(es):	3
14.4. Packing group:	III
Hazard label:	3
Classification code:	F1
Special Provisions:	163 640E 650
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	30
Tunnel restriction code:	D/E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 1263
14.2. UN proper shipping name:	Paint
14.3. Transport hazard class(es):	3
14.4. Packing group:	III
Hazard label:	3
Classification code:	F1
Special Provisions:	163 640E 650
Limited quantity:	5 L

Excepted quantity: E1

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No information available.

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 40, Entry 74, Entry 75

Additional information

To follow: 850/2004/EC, 79/117/EEC, 689/2008/EC

National regulatory information

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.
Water hazard class (D):	2 - obviously hazardous to water
Skin resorption/Sensitization:	Permeates easily through outer skin and causes poisoning.

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%

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

Classification	Classification procedure
Flam. Liq. 3; H226	On basis of test data
Acute Tox. 4; H312	Calculation method
Acute Tox. 4; H332	Calculation method
Asp. Tox. 1; H304	Calculation method
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method
Skin Sens. 1; H317	Calculation method
STOT SE 3; H335	Calculation method
STOT RE 2; H373	Calculation method

Relevant H and EUH statements (number and full text)

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H312+H332	Harmful in contact with skin or if inhaled.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
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 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 current version of this safety data sheet is available on our website www.enke-werk.de/en

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