

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

- 1.1 Product identifier
- Trade name: Epifanes Poly-urethane Curing Agent Component B
- 1.2 Relevant identified uses of the substance or mixture and uses advised against
No further relevant information available.
- Application of the substance / the mixture
Curing component of a two-component finish
- 1.3 Details of the supplier of the safety data sheet
- Manufacturer/Supplier:
W.Heeren & Zoon bv.
P.O. box 166
1430 AD Aalsmeer
Netherlands
tel.+31-(0)297-360366
fax +31-(0)297-342078
email: r&d@epifanes.nl
- Further information obtainable from: environment protection department
- 1.4 Emergency telephone number:
W.Heeren & Zoon bv. tel: +31 297 360678, E-mail: r&d@epifanes.nl
Phone the National Poisons Information: Tel. +31 30 2748888
See manufacturer

SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

- Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Harmful

R20: Harmful by inhalation.



Xi; Irritant

R36: Irritating to eyes.



Xi; Sensitising

R43: May cause sensitisation by skin contact.

R10: Flammable.

- Information concerning particular hazards for human and environment:
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

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- Classification system:
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

- 2.2 Label elements
- Labelling according to Regulation (EC) No 1272/2008
The product is classified and labelled according to the CLP regulation.
- Hazard pictograms



GHS02



GHS07

- Signal word Warning
- Hazard-determining components of labelling:
Hexamethylen-1,6 diisocyanat homopolymeer
xylene
ethylbenzene
hexamethylene-di-isocyanate
- Hazard statements
H226 Flammable liquid and vapour.
H332 Harmful if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
- Precautionary statements
P102 Keep out of reach of children.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 Keep container tightly closed.
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.
P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- Additional information:
Contains isocyanates. May produce an allergic reaction.
- 2.3 Other hazards
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

- 3.2 Chemical characterization: Mixtures
- Description: Isocyanate resin in organic solvent

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• Dangerous components:

CAS: 28182-81-2 NLP: 500-060-2 Reg.nr.: 01-2119485796-17	Hexamethyleen-1,6 diisocynaat homopolymeer  Xn R20  Xi R37  Xi R43 -----  Flam. Liq. 3, H226  Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335	50-100%
CAS: 108-65-6 EINECS: 203-603-9 Index number: 607-195-00-7 Reg.nr.: 01-2119475791-29	2-methoxy-1-methylethyl acetate  Xi R36 R10 -----  Flam. Liq. 3, H226	25-50%
CAS: 1330-20-7 EINECS: 215-535-7 Index number: 601-022-00-9 Reg.nr.: 01-2119488216-32	xylene  Xn R20/21  Xi R38 R10 -----  Flam. Liq. 3, H226  Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	2.5-10%
CAS: 100-41-4 EINECS: 202-849-4 Index number: 601-023-00-4 Reg.nr.: 01-2119489370-35	ethylbenzene  Xn R20  F R11 -----  Flam. Liq. 2, H225  Acute Tox. 4, H332	≤ 2.5%
CAS: 822-06-0 EINECS: 212-485-8 Index number: 615-011-00-1 Reg.nr.: 01-2119457571-37	hexamethylene-di-isocyanate  T R23  Xn R42/43  Xi R36/37/38 -----  Acute Tox. 3, H331  Resp. Sens. 1, H334  Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	≤0.5%

• Additional information:

For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

- 4.1 Description of first aid measures
- General information:
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- After inhalation:
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- After skin contact: Immediately wash with water and soap and rinse thoroughly.
- After eye contact:
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing: If symptoms persist consult doctor.
- 4.2 Most important symptoms and effects, both acute and delayed
No further relevant information available.

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- 4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

* **SECTION 5: Firefighting measures**

- 5.1 Extinguishing media
Suitable extinguishing agents:
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- For safety reasons unsuitable extinguishing agents: Water with full jet
- 5.2 Special hazards arising from the substance or mixture
No further relevant information available.
- 5.3 Advice for firefighters
Protective equipment: Mouth respiratory protective device.

* **SECTION 6: Accidental release measures**

- 6.1 Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
- 6.2 Environmental precautions:
Do not allow to enter sewers/ surface or ground water.
- 6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- 6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

* **SECTION 7: Handling and storage**

- 7.1 Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- Information about fire - and explosion protection:
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- 7.2 Conditions for safe storage, including any incompatibilities
Storage:
Requirements to be met by storerooms and receptacles:
Store only in the original receptacle.
- Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep container tightly sealed.
- 7.3 Specific end use(s) No further relevant information available.

* **SECTION 8: Exposure controls/personal protection**

- Additional information about design of technical facilities:
No further data; see item 7.

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· 8.1 Control parameters

· Ingredients with limit values that require monitoring at the workplace:

108-65-6 2-methoxy-1-methylethyl acetate

Inhalative	Tijd gewogen gemiddelde over 8 uur / Exposure time	550 mg/m ³ (Algemene bevolking/ General population)
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1330-20-7 xylene

Inhalative	Tijd gewogen gemiddelde over 15 min/Exposure time	442 mg/m ³ (Algemene bevolking/ General population)
	Tijd gewogen gemiddelde over 8 uur / Exposure time	210 mg/m ³ (Algemene bevolking/ General population)

100-41-4 ethylbenzene

Inhalative	Tijd gewogen gemiddelde over 15 min/Exposure time	430 mg/m ³ (Algemene bevolking/ General population)
	Tijd gewogen gemiddelde over 8 uur / Exposure time	215 mg/m ³ (Algemene bevolking/ General population)

108-65-6 2-methoxy-1-methylethyl acetate

WEL	Short-term value: 548 mg/m ³ , 100 ppm Long-term value: 274 mg/m ³ , 50 ppm Sk
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1330-20-7 xylene

WEL	Short-term value: 441 mg/m ³ , 100 ppm Long-term value: 220 mg/m ³ , 50 ppm Sk; BMGV
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100-41-4 ethylbenzene

WEL	Short-term value: 552 mg/m ³ , 125 ppm Long-term value: 441 mg/m ³ , 100 ppm Sk
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822-06-0 hexamethylene-di-isocyanate

WEL	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO
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· DNELs

1330-20-7 xylene

Dermal	Long-term - local effects, worker	180 --- (Werker/Worker)
Inhalative	Acute - systemic effects, worker	289 mg/m ³ (Werker/Worker)
	Acute-local effects, worker	289 mg/m ³ (Werker/Worker)

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	Long-term - local effects, worker	77 mg/m ³ (Werker/Worker)
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• PNECs

28182-81-2 Hexamethyleen-1,6 diisocyanaat homopolymeer

Aquatic compartent - freshwater	0.199 mg/L (not specified)
Aquatic compartment - marine water	0.0199 mg/L (not specified)
Aquatic compartment - sediment in freshwater	44551 mg/kg sed dw (not specified)
Aquatic compartment - sediment in marine water	4455 mg/kg sed dw (5)
Sewage treatment plant	100 mg/L (not specified)
Terrestrial compartent - soil	8884 mg/kg dw (not specified)

1330-20-7 xylene

Aquatic compartent - freshwater	0.327 mg/L (not specified)
Aquatic compartment - marine water	0.327 mg/L (not specified)
Aquatic compartment - sediment in freshwater	12.46 mg/kg sed dw (not specified)
Aquatic compartment - sediment in marine water	12.46 mg/kg sed dw (not specified)
Aquatic compartment - water, intermittent releases	0.327 mg/L (not specified)
Sewage treatment plant	6.58 mg/L (not specified)
Terrestrial compartent - soil	2.31 mg/kg dw (not specified)

• Ingredients with biological limit values:

1330-20-7 xylene

BMGV	650 mmol/mol creatinine
	Medium: urine
	Sampling time: post shift
	Parameter: methyl hippuric acid

• Additional information: The lists valid during the making were used as basis.

• 8.2 Exposure controls

• Personal protective equipment:

• General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

• Respiratory protection:

Filter A/P2

In case of brief exposure or low pollution use respiratory filter device. In

case of intensive or longer exposure use self-contained respiratory protective device.

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- Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- Eye protection:



Tightly sealed goggles

SECTION 9: Physical and chemical properties

- 9.1 Information on basic physical and chemical properties

- General Information

- Appearance:

Form: Fluid
Colour: According to product specification

- Odour: Characteristic

- Odour threshold: Not determined.

- pH-value: Not determined.

- Change in condition

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 145 °C

- Flash point: 38 °C

- Flammability (solid, gaseous): Not applicable.

- Ignition temperature: 315 °C

- Decomposition temperature: Not determined.

- Self-igniting: Product is not selfigniting.

- Danger of explosion: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

- Explosion limits:

Lower: 1.5 Vol %

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Upper:	10.8 Vol %
· Vapour pressure at 20 °C:	3.4 hPa
· Density at 20 °C:	1.05165 g/cm ³ (ISO 2811)
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic at 20 °C:	43 s (DIN 53211/4)
· Solvent content:	
Organic solvents:	38.7 %
VOC content:	38.7 %
	VOC content:
	406.9 g/l / 3.40 lb/gal
Solids content:	61.1 % (VB% 1h 150C)
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- 10.1 Reactivity
- 10.2 Chemical stability
- Thermal decomposition / conditions to be avoided:
No decomposition if used according to specifications.
- 10.3 Possibility of hazardous reactions No dangerous reactions known.
- 10.4 Conditions to avoid No further relevant information available.
- 10.5 Incompatible materials: No further relevant information available.
- 10.6 Hazardous decomposition products:
No dangerous decomposition products known.

SECTION 11: Toxicological information

- 11.1 Information on toxicological effects
- Acute toxicity:

- LD/LC50 values relevant for classification:

108-65-6 2-methoxy-1-methylethyl acetate

Oral LD50 8532 mg/kg bw (rat)

Inhalative LC50/4 h 35.7 mg/l (rat)

1330-20-7 xylene

Oral LD50 4300 mg/kg bw (rat)

Dermal LD50 2000 mg/kg bw (rabbit)

100-41-4 ethylbenzene

Oral LD50 3500 mg/kg bw (rat)

Dermal LD50 17800 mg/kg bw (rabbit)

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822-06-0 hexamethylene-di-isocyanate

Oral	LD50	738 mg/kg bw (rat)
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Dermal	LD50	593 mg/kg bw (rat)
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- Primary irritant effect:
- on the skin: No irritant effect.
- on the eye: Irritating effect.
- Sensitization: Sensitization possible through skin contact.
- Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Harmful

Irritant

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

108-65-6 2-methoxy-1-methylethyl acetate

EC50	408-500 mg/l (daphnia magna) (48 uur/hour)
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IC 50	>1000 mg/l (Algae, Growth inhibition test) (72 uur/hour)
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LC50	100-180 mg/l (Fish Acute Toxicity Study) (96 uur/hour)
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1330-20-7 xylene

EC50	1 mg/l (daphnia magna) (48 uur/hour)
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LC50	13.5-2.6 mg/l (Fish Acute Toxicity Study) (96 uur/hour)
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- 12.2 Persistence and degradability No further relevant information available.

12.3 Bioaccumulative potential

1330-20-7 xylene

Log Kow	3 (not specified)
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- 12.4 Mobility in soil No further relevant information available.
- Additional ecological information:
- General notes:
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- 12.5 Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.
- 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

European waste catalogue

08 00 00	WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS
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08 01 00	wastes from MFSU and removal of paint and varnish
08 01 11*	waste paint and varnish containing organic solvents or other dangerous substances

- Uncleaned packaging:
- Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

- 14.1 UN-Number
· ADR, IMDG, IATA UN1263
- 14.2 UN proper shipping name
· ADR 1263 PAINT (not viscous)
· IMDG, IATA PAINT
- 14.3 Transport hazard class(es)
· ADR

 - Class 3 (F1) Flammable liquids.
 - Label 3
- IMDG, IATA

 - Class 3 Flammable liquids.
 - Label 3
- 14.4 Packing group
· ADR, IMDG, IATA III
- 14.5 Environmental hazards:
· Marine pollutant: No
- 14.6 Special precautions for user Warning: Flammable liquids.
· Danger code (Kemler): 30
· EMS Number: F-E, S-E
- 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.
- Transport/Additional information:
- ADR
- Limited quantities (LQ) 5L
- Excepted quantities (EQ) Code: E1
Maximum net quantity per inner packaging:
30 ml
Maximum net quantity per outer packaging:
1000 ml
- Transport category 3

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· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN1263, PAINT (not viscous), 3, III

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- National regulations:
- Technical instructions (air):

Class	Share in %
I	≤0.5
NK	25-50
- Waterhazard class: Water hazard class 2 (Self-assessment): hazardous for water.
- 15.2 Chemical safety assessment:
A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Relevant phrases

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H312	Harmful in contact with skin.
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.
R10	Flammable.
R11	Highly flammable.
R20	Harmful by inhalation.
R20/21	Harmful by inhalation and in contact with skin.
R23	Toxic by inhalation.
R36	Irritating to eyes.
R36/37/38	Irritating to eyes, respiratory system and skin.
R37	Irritating to respiratory system.
R38	Irritating to skin.
R42/43	May cause sensitisation by inhalation and skin contact.
R43	May cause sensitisation by skin contact.

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· Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organization
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 (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Flam. Liq. 2: Flammable liquids, Hazard Category 2
Flam. Liq. 3: Flammable liquids, Hazard Category 3
Acute Tox. 3: Acute toxicity, Hazard Category 3
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

· * Data compared to the previous version altered.

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