SAFETY DATA SHEET

Aka-Resin Liquid Epoxy

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

1.1. Product identifier

Trade name

Aka-Resin Liquid Epoxy

Product no.

25101115-25101117 (8510-8520)

Unique formula identifier (UFI)

8QUF-21GT-Q849-0MS5

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

Relevant identified uses of the substance or mixture

Liquid epoxy resin for embedding of metallographic samples

▼Uses advised against

None known.

1.3. Details of the supplier of the safety data sheet

Company and address

Akasel A/S
Svogerslev Hovedgade 48
4000 Roskilde
Denmark
+45 57 84 05 01
www.akasel.com

E-mail

safety@akasel.com

Revision

01/01/2023

SDS Version

3.0

Date of previous version

22/09/2021 (2.0)

1.4. Emergency telephone number

Contact The National Poisons Information Service (dial 111, 24 h service).
See section 4 “First aid measures”.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Skin Irrit. 2; H315, Causes skin irritation.
Skin Sens. 1; H317, May cause an allergic skin reaction.
Eye Irrit. 2; H319, Causes serious eye irritation.
Aquatic Chronic 2; H411, Toxic to aquatic life with long lasting effects.

2.2. Label elements

Hazard pictogram(s)



Signal word

Warning

Hazard statement(s)

Causes skin irritation. (H315)
May cause an allergic skin reaction. (H317)

Causes serious eye irritation. (H319)
Toxic to aquatic life with long lasting effects. (H411)

Safety statement(s)

General

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▼Prevention

Avoid breathing dust. (P261)
Contaminated work clothing should not be allowed out of the workplace. (P272)
Wear . (P280)

Response

If skin irritation or rash occurs: Get medical advice/attention. (P333+P313)
Take off contaminated clothing and wash it before reuse. (P362+P364)

Storage

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▼Disposal

Dispose of contents/container . (P501)

Hazardous substances

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.

▼Additional labelling

EUH205, Contains epoxy constituents. May produce an allergic reaction.
UFI: 8QUF-21GT-Q849-0MS5

2.3. Other hazards

▼Additional warnings

Contains epoxy constituents. May produce an allergic reaction.
This mixture/product does not contain any substances considered to meet the criteria classifying them as PBT and/or vPvB.
This product does not contain any substances considered to be endocrine disruptors in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 3: Composition/information on ingredients

3.1. ▼Substances

Not applicable. This product is a mixture.

3.2. ▼Mixtures

Product/substance	Identifiers	% w/w	Classification	Note
reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)	CAS No.: 25068-38-6 EC No.: 500-033-5 UK-REACH: Index No.: 603-074-00-8	60-100%	Skin Irrit. 2, H315 (SCL: 5.00 %) Skin Sens. 1, H317 Eye Irrit. 2, H319 (SCL: 5.00 %) Aquatic Chronic 2, H411	
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	CAS No.: 68609-97-2 EC No.: 271-846-8 UK-REACH: Index No.: 603-103-00-4	10-30%	Skin Irrit. 2, H315 Skin Sens. 1, H317	

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

▼Other information

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SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In the case of accident: Contact a doctor or casualty department – take the label or this safety data sheet.
Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

Inhalation

Upon breathing difficulties or irritation of the respiratory tract: Bring the person into fresh air and stay with him/her.

Skin contact

IF ON SKIN: Wash with plenty of water and soap.
Remove contaminated clothing and shoes. Ensure to wash exposed skin thoroughly with water and soap. DO NOT use solvents or thinners.
If skin irritation occurs: Get medical advice/attention.

Eye contact

Upon irritation of the eye: Remove contact lenses. Flush eyes immediately with plenty of water or isotonic water (20-30 °C) for at least 5 minutes and continue until irritation stops. Make sure to flush under upper and lower eyelids. If irritation continues, contact a doctor. Continue flushing during transport.

▼Ingestion

Provide plenty of water for the person to drink and stay with him/her. In case of malaise, seek medical advice immediately and bring the safety data sheet or label from the product. Do not induce vomiting, unless recommended by the doctor. Have the person lean forward with head down to avoid inhalation of or choking on vomited material.

▼Burns

Not applicable.

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

Sensitisation: This product contains substances, which may trigger allergic reaction upon dermal contact.
Manifestation of allergic reactions typically takes place within 12-72 hours after exposure.

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

If eye irritation persists: Get medical advice/attention.
If skin irritation or rash occurs: Get medical advice/attention.

Information to medics

Bring this safety data sheet or the label from this product.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam, carbon dioxide, powder, water mist.
Unsuitable extinguishing media: Waterjets should not be used, since they can spread the fire.

5.2. ▼Special hazards arising from the substance or mixture

Fire will result in dense smoke. Exposure to combustion products may harm your health. Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.
If the product is exposed to high temperatures, e.g. in the event of fire, dangerous decomposition compounds are produced. These are:
Carbon oxides (CO / CO2)
Containers may explode when heated due to excessive pressure build-up.

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact The National Poisons Information Service (dial 111, 24 h service) in order to obtain further advice.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid direct contact with spilled substances.

6.2. Environmental precautions

Avoid discharge to lakes, streams, sewers, etc. In the event of leakage to the surroundings, contact local environmental authorities.

6.3. ▼Methods and material for containment and cleaning up

Use sand, earth, vermiculite, diatomaceous earth to contain and collect non-combustible absorbent materials and place in container for disposal, according to local regulations.
Wherever possible cleaning should be performed with normal cleaning agents. Avoid use of solvents.

6.4. ▼Reference to other sections

See section 13 “Disposal considerations” on handling of waste.
See section 8 "Exposure controls/personal protection" for protective measures.

SECTION 7: Handling and storage

7.1. ▼Precautions for safe handling

It is recommended to install waste collection trays in order to prevent emissions to the waste water system and surrounding environment.
Smoking, drinking and consumption of food is not allowed in the work area.
See section 8 "Exposure controls/personal protection" for information on personal protection.

7.2. ▼Conditions for safe storage, including any incompatibilities

Containers that have been opened must be carefully resealed and kept upright to prevent leakage.
Store in a cool, dry place and should not come into contact with heat sources.

Recommended storage material

Always store in containers of the same material as the original container.

Storage temperature

5 - 40°C

Incompatible materials

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

7.3. ▼Specific end use(s)

This product should only be used for applications quoted in section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No substances are listed in the national list of substances with an occupational exposure limit.

▼DNEL

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)

Duration	Route of exposure	DNEL
Long term – Systemic effects - General population	Dermal	3,571 mg/kg/day
Long term – Systemic effects - Workers	Dermal	8,33 mg/kg/day
Short term – Systemic effects - General population	Dermal	3,571 mg/kg/day
Short term – Systemic effects - Workers	Dermal	8,33 mg/kg/day
Long term – Systemic effects - Workers	Inhalation	12,25 mg/m3
Short term – Systemic effects - Workers	Inhalation	12,25 mg/m3
Long term – Systemic effects - General population	Oral	0,75 mg/kg/day
Short term – Systemic effects - General population	Oral	0,75 mg/kg/day

▼PNEC

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)

Route of exposure	Duration of Exposure	PNEC
Freshwater		0,006 mg/l
Freshwater sediment		0,996 mg/l
Intermittent release		0,018 mg/l
Marine water		0,0006 mg/l
Marine water sediment		0,0996 mg/l
Sewage treatment plant		10 mg/l
Soil		0,196 mg/kg

8.2. Exposure controls

Control is unnecessary if the product is used as intended.

General recommendations

Smoking, drinking and consumption of food is not allowed in the work area.

Exposure scenarios

There are no exposure scenarios implemented for this product.

Exposure limits

Occupational exposure limits have not been defined for the substances in this product.

Appropriate technical measures

Apply standard precautions during use of the product. Avoid inhalation of vapours.

Hygiene measures

Take off contaminated clothing and wash it before reuse.

Measures to avoid environmental exposure

Keep damming materials near the workplace. If possible, collect spillage during work.

8.3. Individual protection measures, such as personal protective equipment

▼Generally

Use only UKCA marked protective equipment.

Respiratory Equipment

Work situation	Type	Class	Colour	Standards	
In case of insufficient ventilation	Combination filter A2P2	Class 2	Brown/White	EN14387	

Skin protection

Recommended	Type/Category	Standards	
Dedicated work clothing should be worn. Wear a protective suit in the event of prolonged periods of work with the product.	-	-	

Hand protection

Material	Glove thickness (mm)	Breakthrough time (min.)	Standards	
Nitrile	0.4	> 480	EN374-2, EN374-3, EN388	

Eye protection

Type	Standards	
Wear safety glasses with side shields.	EN166	

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Liquid

Colour

Yellow

▼Odour / Odour threshold

Mild

▼pH

Testing not relevant or not possible due to the nature of the product.

Density (g/cm³)

1,11-1,14

▼Kinematic viscosity

600-800 cP

▼Particle characteristics

Does not apply to liquids.

Phase changes

▼Melting point/Freezing point (°C)

Testing not relevant or not possible due to the nature of the product.

▼Softening point/range (waxes and pastes) (°C)
Does not apply to liquids.

▼Boiling point (°C)
> 148

▼Vapour pressure
0.06 mmHg (21 °C)

▼Relative vapour density
Testing not relevant or not possible due to the nature of the product.

▼Decomposition temperature (°C)
> 350

Data on fire and explosion hazards

▼Flash point (°C)
176,7 - 190,6

▼Auto-Ignition (°C)
Testing not relevant or not possible due to the nature of the product.

▼Flammability (°C)
Testing not relevant or not possible due to the nature of the product.

▼Lower and upper explosion limit (% v/v)
1.6 - 3.6

Solubility

Solubility in water
Insoluble

▼n-octanol/water coefficient
Testing not relevant or not possible due to the nature of the product.

▼Solubility in fat (g/L)
Testing not relevant or not possible due to the nature of the product.

9.2. Other information

▼Other physical and chemical parameters
No data available.

SECTION 10: Stability and reactivity

10.1. ▼Reactivity
No data available.

10.2. Chemical stability
The product is stable under the conditions, noted in section 7 “Handling and storage”.

10.3. ▼Possibility of hazardous reactions
None known.

10.4. Conditions to avoid
Containers may explode when heated due to excessive pressure build-up.

10.5. Incompatible materials
Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

10.6. Hazardous decomposition products
The product is not degraded when used as specified in section 1.

SECTION 11: Toxicological information

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

Acute toxicity

Product/substance	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)
Test method	
Species	Rabbit
Route of exposure	Dermal
Test	LD50
Result	23000 mg/kg
Other information	

Product/substance	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)

Test method	
Species	Rat
Route of exposure	Oral
Test	LD50
Result	15000 mg/kg
Other information	

Product/substance	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.
Test method	
Species	Rat
Route of exposure	Oral
Test	LD50
Result	17100 mg/kg
Other information	

Skin corrosion/irritation
Causes skin irritation.

Serious eye damage/irritation
Causes serious eye irritation.

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

Skin sensitisation
May cause an allergic skin reaction.

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

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

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

STOT-single exposure
Based on available data, the classification criteria are not met.

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.

11.2. Information on other hazards

▼Long term effects
Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs. Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.

▼Endocrine disrupting properties
None known.

▼Other information
None known.

SECTION 12: Ecological information

12.1. ▼Toxicity

Product/substance	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)
Test method	
Species	Fish
Compartment	
Duration	96 hours
Test	LC50
Result	2 mg/L
Other information	

Product/substance	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)
Test method	
Species	Daphnia
Compartment	
Duration	48 hours
Test	EC50
Result	1,8 mg/L

Other information

Product/substance	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)
Test method	
Species	Algae
Compartment	
Duration	72 hours
Test	EC30
Result	11 mg/L
Other information	

Product/substance	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)
Test method	
Species	Crustacean
Compartment	
Duration	21 days
Test	LT50
Result	0,3 mg/L
Other information	

Product/substance	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.
Test method	
Species	Fish
Compartment	
Duration	96 hours
Test	LC50
Result	1800 mg/L
Other information	

Product/substance	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.
Test method	
Species	Algae
Compartment	
Duration	72 hours
Test	NOEC
Result	500 mg/L
Other information	

Product/substance	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.
Test method	
Species	Algae
Compartment	
Duration	72 hours
Test	EC50
Result	843 mg/L
Other information	

Product/substance	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.
Test method	
Species	Activated sludge
Compartment	
Duration	3 hours
Test	EC50
Result	100 mg/L
Other information	

12.2. Persistence and degradability

Product/substance	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)
Biodegradable	No
Test method	OECD 301 B
Result	12% (28 dg)

Product/substance	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.
Biodegradable	Yes
Test method	OECD 301 F

Result	87 % (28 d)

12.3. Bioaccumulative potential

Product/substance	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)
Test method	
Potential bioaccumulation	Yes
LogPow	3,2420
BCF	100
Other information	

Product/substance	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.
Test method	
Potential bioaccumulation	Yes
LogPow	3,7700
BCF	160
Other information	

12.4. Mobility in soil

oxirane, mono[(C12-14-alkyloxy)methyl] derivs.
LogKoc = 3.063863, Moderate mobility potential.

12.5. Results of PBT and vPvB assessment

This mixture/product does not contain any substances considered to meet the criteria classifying them as PBT and/or vPvB.

12.6. ▼Endocrine disrupting properties

None known.

12.7. ▼Other adverse effects

This product contains substances that are toxic to the environment. May result in adverse effects to aquatic organisms.
This product contains substances, which may cause adverse long-term effects to the aquatic environment.
This product contains substances with the potential of bioaccumulation resulting in the risk of accumulation in the food chain. Bioaccumulative substances are concentrated in adipose tissue and are not easily secreted.

SECTION 13: Disposal considerations

▼Waste treatment methods

Product is covered by the regulations on hazardous waste.
HP 4 - Irritant (skin irritation and eye damage)
HP 13 – Sensitising
HP 14 – Ecotoxic
Dispose of contents/container to an approved waste disposal plant.
Regulation (EU) No 1357/2014 of 18 December 2014 on waste as retained and amended in UK law.

▼EWC code

Not applicable.

▼Specific labelling

Not applicable.

Contaminated packing

Packaging containing residues of the product must be disposed of similarly to the product.

SECTION 14: Transport information

	14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other information
ADR	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	Class: 9 Labels: 9 Classification code: M6 	III	Yes	Limited quantities: 5 L Tunnel restriction code: 3 (-) See below for additional information.

	14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other information
IMDG	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	Class: 9 Labels: 9 Classification code: M6 	III	Yes	Limited quantities: 5 L EmS: F-A S-F See below for additional information.
IATA	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	Class: 9 Labels: 9 Classification code: M6	III	Yes	See below for additional information.

* Packing group
** Environmental hazards

▼Additional information

These substances when carried in single or combination packaging's containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids, are not subject to any other provisions of ADR/IMDG/IATA provided the packaging's meet the general provisions of 4.1.1.1, 4.1.1.2, 4.1.1.4 - 4.1.1.8 (ADR, IMDG) / 5.0.2.4.1, 5.0.2.6.1.1, 5.0.2.8 (IATA).

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ADR / See Table A, Section 3.2.1 for any information on special provisions, requirements, or warnings in connection with transport. See section 5.4.3, for instructions in writing regarding mitigation of damages in relation to incidents or accidents during transport.

IMDG / See section 3.2.1, for any information on special provisions, requirements, or warnings in connection with transport.

IATA / See Table 4.2 for any information on special provisions, requirements, or warnings in connection with transport.

This product is within scope of the regulations of transport of dangerous goods.

14.6. Special precautions for user

This product is covered by the ADR Special Provision 375, IATA Special provision A197 and IMDG exception 2.10.2.7: Marine pollutants packaged in single or combination packagings containing a net quantity per single or inner packaging of max. 5 L or having a net mass per single or inner packaging of max. 5 kg for solids are not subject to any other provisions of ADR / IMDG /IATA provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8 (ADR and IMDG) and/or 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8 (IATA).

14.7. ▼Maritime transport in bulk according to IMO instruments

No data available.

SECTION 15: Regulatory information

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

Restrictions for application

People under the age of 18 shall not be exposed to this product cf. Council Directive 94/33/EC of 22 June 1994 on the protection of young people at work.

Demands for specific education

Use of this product requires dedicated training in work with polyurethane and epoxy products.

SEVESO - Categories / dangerous substances

E2 - ENVIRONMENTAL HAZARDS, Qualifying quantity (lower-tier): 200 tonnes / (upper-tier): 500 tonnes

▼Additional information

Not applicable.

▼Sources

The Management of Health and Safety at Work Regulations 1999.
Control of Major Accident Hazards (COMAH) Regulations 2015.
Regulation (EU) No 1357/2014 of 18 December 2014 on waste as retained and amended in UK law.
Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP) as retained and amended in UK law.
Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

(REACH) as retained and amended in UK law.

15.2. Chemical safety assessment

No

SECTION 16: Other information

Full text of H-phrases as mentioned in section 3

H315, Causes skin irritation.
H317, May cause an allergic skin reaction.
H319, Causes serious eye irritation.
H411, Toxic to aquatic life with long lasting effects.

▼Abbreviations and acronyms

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS = Chemical Abstracts Service
CE = Conformité Européenne
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
CSA = Chemical Safety Assessment
CSR = Chemical Safety Report
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EINECS = European Inventory of Existing Commercial chemical Substances
ES = Exposure Scenario
EUH statement = CLP-specific Hazard statement
EWC = European Waste Catalogue
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IARC = International Agency for Research on Cancer (IARC)
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
OECD = Organisation for Economic Co-operation and Development
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
SCL = A specific concentration limit
SVHC = Substances of Very High Concern
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
TWA = Time weighted average
UN = United Nations
UVBC = Unknown or variable composition, complex reaction products or of biological materials
VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative

▼Additional information

The classification of the substance/mixture in regard of health hazards are in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP) as retained and amended in UK law.
The classification of the substance/mixture in regard of environmental hazards are in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP) as retained and amended in UK law.

▼The safety data sheet is validated by

iro@akasel.com

Other

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a blue triangle.
The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.
It is recommended to hand over this safety data sheet to the actual user of the product. Information in this safety

data sheet cannot be used as a product specification.
Country-language: GB-en