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

1.1. Product identifier

RAKU® TOOL EP-2305 Resin

UFI: 5WC6-T0SM-T00V-J1JN

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

Use of the substance/mixture

model building material

Uses advised against

There are no data available on the mixture itself.

1.3. Details of the supplier of the safety data sheet

Company name: Suter Kunststoffe AG
Street: Aefligenstrasse 3
Place: CH-3312 Fraubrunnen
Telephone: +41 (0)31 763 60 60
e-mail: info@swiss-composite.ch

1.4. Emergency telephone number:

Tox Info Suisse
Emergency number: 145 - from abroad: + 41 44 251 51 51

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:
Skin corrosion/irritation: Skin Irrit. 2
Serious eye damage/eye irritation: Eye Irrit. 2
Respiratory or skin sensitisation: Skin Sens. 1
Hazardous to the aquatic environment: Aquatic Chronic 2
Hazard Statements:
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
Toxic to aquatic life with long lasting effects.

2.2. Label elements

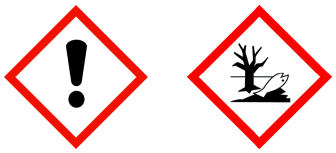
Regulation (EC) No. 1272/2008

Hazard components for labelling

bis-[4-(2,3-epoxipropoxi)phenyl]propane;
Bisphenol F-epichlorohydrin resin;
maleic anhydride

Signal word: Warning

Pictograms:



Hazard statements

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.

Precautionary statements

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P501	Dispose of contents/container to an appropriate recycling or disposal facility.

2.3. Other hazards

None known

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixture of the following substances with non-hazardous admixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
1675-54-3	bis-[4-(2,3-epoxipropoxi)phenyl]propane			40 - < 45 %
	216-823-5	603-073-00-2	01-2119456619-26	
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H319 H317 H411			
9003-36-5	Bisphenol F-epichlorohydrin resin			10 - < 15 %
	500-006-8		01-2119454392-40	
	Skin Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H317 H411			
90529-77-4	1,2,3- propanetriol, glycidyl ether			5 - < 10 %
	292-011-4			
	Skin Irrit. 2, Eye Irrit. 2; H315 H319			
108-31-6	maleic anhydride			< 0.1 %
	203-571-6	607-096-00-9	01-2119472428-31	
	Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1, Resp. Sens. 1, Skin Sens. 1A, STOT RE 1; H302 H314 H318 H334 H317 H372 EUH071			

Full text of H and EUH statements: see section 16.

Specific concentration limits and M-factors

CAS No	EC No	Chemical name	Quantity
	Specific concentration limits and M-factors		
1675-54-3	216-823-5	bis-[4-(2,3-epoxipropoxi)phenyl]propane	40 - < 45 %
	Skin Irrit. 2; H315: >= 5 - 100 Eye Irrit. 2; H319: >= 5 - 100		
108-31-6	203-571-6	maleic anhydride	< 0.1 %
	Skin Sens. 1A; H317: >= 0,001 - 100		

Further Information

none

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated, saturated clothing immediately.
Remove affected person from the danger area and lay down.

After inhalation

Move to fresh air in case of accidental inhalation of vapours or decomposition products.
In case of respiratory tract irritation, consult a physician.

After contact with skin

Wash with plenty of water/soap.
If skin irritation or rash occurs: Get medical advice/attention.

After contact with eyes

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.

After ingestion

Rinse mouth immediately and drink plenty of water.
Never give anything by mouth to an unconscious person or a person with cramps.

Call a physician immediately.
Do NOT induce vomiting.

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

There are no data available on the mixture itself.

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

There are no data available on the mixture itself.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Foam, Carbon dioxide (CO2), Dry extinguishing powder, Water spray jet

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

In case of fire may be liberated:
Carbon monoxide, Carbon dioxide

5.3. Advice for firefighters

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

Additional information

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

In case of vapour formation use respirator.
Provide adequate ventilation.
Wear personal protection equipment (refer to section 8).
Keep away from sources of ignition - No smoking.

6.2. Environmental precautions

Clear contaminated areas thoroughly.
Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).
Take up mechanically, placing in appropriate containers for disposal.

6.4. Reference to other sections

none

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Keep container tightly closed.
Provide adequate ventilation.
Avoid contact with skin, eyes and clothes.

Advice on protection against fire and explosion

No special fire protection measures are necessary.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place.
Protect against direct sunlight.

Hints on joint storage

Incompatible materials:Alkali (lye), Amines, Alcohols

Further information on storage conditions

Keep away from food, drink and animal feedingstuffs.
Keep at temperatures between 5°C and 40°C.

7.3. Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
1317-65-3	Limestone, total inhalable	-	10		TWA (8 h)	WEL
108-31-6	Maleic anhydride	-	1		TWA (8 h)	WEL
		-	3		STEL (15 min)	WEL

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
1675-54-3	bis-[4-(2,3-epoxipropoxi)phenyl]propane			
Worker DNEL, long-term		inhalation	systemic	12,25 mg/m³
Worker DNEL, acute		inhalation	systemic	12,25 mg/m³
Worker DNEL, long-term		dermal	systemic	8,33 mg/kg bw/day
Worker DNEL, acute		dermal	systemic	8,33 mg/kg bw/day
9003-36-5	Bisphenol F-epichlorohydrin resin			
Worker DNEL, long-term		dermal	systemic	104,15 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	29,39 mg/m³
108-31-6	maleic anhydride			
Worker DNEL, acute		inhalation	systemic	0,8 mg/m³
Worker DNEL, long-term		dermal	systemic	0,04 mg/kg bw/day
Worker DNEL, long-term		inhalation	local	0,4 mg/m³

PNEC values

CAS No	Substance	
Environmental compartment		Value
1675-54-3	bis-[4-(2,3-epoxipropoxi)phenyl]propane	
Freshwater		0,006 mg/l
Freshwater (intermittent releases)		0,018 mg/l
Marine water		0,0006 mg/l
Freshwater sediment		0,996 mg/kg
Marine sediment		0,0996 mg/kg
Secondary poisoning		11 mg/kg
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		0,196 mg/kg
9003-36-5	Bisphenol F-epichlorohydrin resin	
Freshwater		0,003 mg/l
Marine water		0,0003 mg/l
Freshwater sediment		0,294 mg/kg
Marine sediment		0,0294 mg/kg
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		0,237 mg/kg
108-31-6	maleic anhydride	
Freshwater		0,04281 mg/l
Marine water		0,004281 mg/l
Freshwater sediment		0,334 mg/kg
Marine sediment		0,0334 mg/kg
Micro-organisms in sewage treatment plants (STP)		44,6 mg/l
Soil		0,0415 mg/l

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation as well as local exhaustion at critical locations.

Protective and hygiene measures

Do not breathe vapour.
Wash hands before breaks and after work.
Do not eat, drink or smoke when using this product.
Avoid contact with skin, eyes and clothes.
Remove and wash contaminated clothes before re-use.

Eye/face protection

Tightly fitting goggles

Hand protection

Chemical-resistant gloves (EN 374)
Suitable materials also for extended, direct contact (recommended: protection index 6, corresponding to a permeation rate > 480 minutes according to EN 374):
butyl rubber (Butyl) - = 0.7 mm thickness; i.e. < Butoject 898> made by KCL.
Nitrile rubber (Nitrile) - 0.4 mm thickness : i.e.<Camatril Velours 730> made by KCL.
Because of the great variety of glove types, the manufacturer's instructions for use must be adhered to.
The data given refer to information from glove manufacturers or have been assessed by analogy to similar materials. It should be taken into consideration, that due to the great number of influential factors such as the temperature, the daily durability of chemicals resistant protective gloves may be considerably reduced in practice, compared to the permeation rate assessed according to EN 374.

Skin protection

Wear suitable protective clothing.
Safety Shoes

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.
If product is sprayed, use fresh-air breathing apparatus or (only short-term use) a combination filter A2-P2.

Environmental exposure controls

There are no data available on the mixture itself.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Paste
Colour:	Apricot
Odour:	not determined
pH-Value:	not determined

Changes in the physical state

Melting point:	not determined
Initial boiling point and boiling range:	> 200 °C
Flash point:	not determined

Flammability

Solid:	not determined
Gas:	not determined

Explosive properties

Product does not present an explosion hazard.

Ignition temperature:	not determined
Decomposition temperature:	> 200 °C

Oxidizing properties

not applicable

Vapour pressure:	not determined
Density (at 20 °C):	ca. 0,6 g/cm³
Water solubility:	practically insoluble
Partition coefficient:	not determined
Viscosity / dynamic: (at 25 °C)	450000 - 550000 mPa·s
Vapour density:	not determined
Evaporation rate:	not determined

9.2. Other information

There are no data available on the mixture itself.

SECTION 10: Stability and reactivity

10.1. Reactivity

Exothermic reaction with: Alkali (lye), Amines ,Alcohol

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

To avoid thermal decomposition, do not overheat.

10.5. Incompatible materials

Alkali (lye), Amines ,Alcohol

10.6. Hazardous decomposition products

The product is stable under storage at normal ambient temperatures.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicocinetics, metabolism and distribution

There are no data available on the mixture itself.

Acute toxicity

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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
1675-54-3	bis-[4-(2,3-epoxipropoxi)phenyl]propane				
	oral	LD50 11400 mg/kg	Rat		
	dermal	LD50 23000 mg/kg	Rat		
9003-36-5	Bisphenol F-epichlorohydrin resin				
	oral	LD50 > 2000 mg/kg	Rat		
	dermal	LD50 > 2000 mg/kg	Rat		
90529-77-4	1,2,3- propanetriol, glycidyl ether				
	oral	LD50 > 5000 mg/kg	Rat		
108-31-6	maleic anhydride				
	oral	LD50 1090 mg/kg	Rat	SDB	
	dermal	LD50 2620 mg/kg	Rabbit	SDB	

Irritation and corrosivity

Causes skin irritation.

Causes serious eye irritation.

Sensitising effects

May cause an allergic skin reaction. (bis-[4-(2,3-epoxipropoxi)phenyl]propane; Bisphenol F-epichlorohydrin resin; maleic anhydride)

Carcinogenic/mutagenic/toxic effects for reproduction

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.

Specific effects in experiment on an animal

There are no data available on the mixture itself.

Additional information on tests

There are no data available on the mixture itself.

Practical experience

Observations relevant to classification

There are no data available on the mixture itself.

Other observations

There are no data available on the mixture itself.

SECTION 12: Ecological information

12.1. Toxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
1675-54-3	bis-[4-(2,3-epoxipropoxi)phenyl]propane						
	Acute fish toxicity	LC50	2 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)		
	Acute algae toxicity	ErC50	11 mg/l	72 h	Scenedesmus subspicatus		
	Acute crustacea toxicity	EC50	1,8 mg/l	48 h	Daphnia magna (Big water flea)		
9003-36-5	Bisphenol F-epichlorohydrin resin						
	Acute fish toxicity	LC50 mg/l	2,54	96 h	Fish		
	Acute algae toxicity	ErC50 mg/l	> 1000	72 h	algae		
	Acute crustacea toxicity	EC50 mg/l	2,55	48 h	Daphnia magna (Big water flea)		
108-31-6	maleic anhydride						
	Acute fish toxicity	LC50	75 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)	SDB	
	Acute algae toxicity	ErC50 mg/l	74,35	72 h	Pseudokirchneriella subcapitata	SDB	
	Acute crustacea toxicity	EC50 mg/l	42,81	48 h	Daphnia magna (Big water flea)		

12.2. Persistence and degradability

There are no data available on the mixture itself.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
9003-36-5	Bisphenol F-epichlorohydrin resin			
	Biodegradable (OECD): 301 B	16 %	28	
	Poorly biodegradable.			

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
1675-54-3	bis-[4-(2,3-epoxipropoxi)phenyl]propane	3,242
9003-36-5	Bisphenol F-epichlorohydrin resin	3,3
108-31-6	maleic anhydride	- 2,61

BCF

CAS No	Chemical name	BCF	Species	Source
1675-54-3	bis-[4-(2,3-epoxipropoxi)phenyl]propane	31		

12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

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

12.6. Other adverse effects

There are no data available on the mixture itself.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Where possible recycling is preferred to disposal.
Can be incinerated, when in compliance with local regulations.
It is not possible to give this product a waste code number according to the European waste catalogue because only the intended use of the user consents the assignment of a specific code number.
The waste code number must be agreed with the disposer / manufacturer / competent authority.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.
Contaminated packages must be completely emptied and can be re-used following proper cleaning.
Packing which cannot be properly cleaned must be disposed of.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number:	UN 3082
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxide derivatives)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9

Classification code:	M6
Special Provisions:	274 335 375 601
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	90
Tunnel restriction code:	(-)

Marine transport (IMDG)

14.1. UN number:	UN 3082
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxide derivatives)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9

Marine pollutant:	yes
Special Provisions:	274, 335, 969
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-A, S-F

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number:	UN 3082
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxide derivatives)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9

Special Provisions:	A97 A158 A197
Limited quantity Passenger:	30 kg G
Passenger LQ:	Y964
Excepted quantity:	E1
IATA-packing instructions - Passenger:	964
IATA-max. quantity - Passenger:	450 L
IATA-packing instructions - Cargo:	964
IATA-max. quantity - Cargo:	450 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes

14.6. Special precautions for user

There are no data available on the mixture itself.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

There are no data available on the mixture itself.

Other applicable information

There are no data available on the mixture itself.

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

Additional information

This product does not contain substances of very high concern > 0,1% (Regulation (EC) No 1907/2006 (REACH), Article 57).

National regulatory information

Water hazard class (D): 2 - obviously hazardous to water

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:
bis-[4-(2,3-epoxipropoxi)phenyl]propane
Bisphenol F-epichlorohydrin resin

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s) 2, 3, 8, 11, 12

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method
Skin Sens. 1; H317	Calculation method
Aquatic Chronic 2; H411	Calculation method

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.

H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
EUH071	Corrosive to the respiratory tract.

Further Information

Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Data of items 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the product (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities.
The information describes exclusively the safety requirements for the product (s) and is based on the present level of our knowledge.
The delivery specifications are contained in the corresponding product sheet.
This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.

Key literature references and sources for data Regulation (EC) No 1907/2006; Regulation (EC) No. 1272/2008

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