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

1.1. Product identifier

ESKANOL EF SOLUTION

Art.-No.

10019, 10020

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

Use of the substance/mixture

Bonding material

1.3. Details of the supplier of the safety data sheet

Manufacturer

Company name:	TIP TOP Oberflaechenschutz Elbe GmbH
Street:	Heuweg 4
Place:	D-06886 Wittenberg
Telephone:	+49(0)3491/635-50 Telefax: +49(0)3491/635-552
Responsible Department:	Responsible for the safety data sheet: sds@gbk-ingelheim.de

Supplier

Company name:	REMA TIP TOP INDUSTRY UK LTD
Street:	Plumtree Industrial Estate, Harworth
Place:	Doncaster, DN11 8EW, South Yorkshire
Telephone:	+44 (0)1302 711233
Internet:	www.rema-tiptop.co.uk

1.4. Emergency telephone number:

INTERNATIONAL: +49 - (0) 6132 - 84463, GBK GmbH (24h - 7d/w - 365d/a)
In England and Wales: NHS 111 In Scotland: NHS 24 - dial 111

Further Information

EC-SDS applicable for following products:
ESKANOL EF SOLUTION, ESKANOL EF SOLUTION RAL

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Repr. 1A; H360F
Skin Irrit. 2; H315
Eye Irrit. 2; H319
Skin Sens. 1; H317
Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Hazard components for labelling

bis-[4-(2,3-epoxipropoxi)phenyl]propane
Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane
Bisphenol-F epoxy resin
Phenol, methylstyrenated

Signal word: Danger

Pictograms:

Hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H360F	May damage fertility.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

P201	Obtain special instructions before use.
P261	Avoid breathing vapour.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P405	Store locked up.

2.3. Other hazards

The mixture contains the following substances fulfilling the vPvB criteria according to UK REACH: Phenol, methylstyrenated .
Endocrine disrupting properties: Phenol, methylstyrenated .

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixture containing following substances with additives

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
1675-54-3	bis-[4-(2,3-epoxipropoxi)phenyl]propane			< 60 %
	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			
933999-84-9	Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane			< 25 %
	618-939-5		01-2119463471-41	
	Repr. 1A, Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1; H360F H315 H319 H317			
	Bisphenol-F epoxy resin			< 20 %
	701-263-0		01-2119454392-40	
	Skin Irrit. 2, Skin Sens. 1A, Aquatic Chronic 2; H315 H317 H411			
68512-30-1	Phenol, methylstyrenated			< 10 %
	270-966-8		01-2119555274-38	
	Skin Irrit. 2, Skin Sens. 1, Aquatic Chronic 3; H315 H317 H412			

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		
1675-54-3	216-823-5	bis-[4-(2,3-epoxipropoxi)phenyl]propane	< 60 %
	Skin Irrit. 2; H315: >= 5 - 100 Eye Irrit. 2; H319: >= 5 - 100		

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated soaked clothing immediately.
In the event of persistent symptoms receive medical treatment.

After inhalation

Move to fresh air in case of accidental inhalation of vapours or decomposition products.
In the event of symptoms refer for medical treatment.

After contact with skin

Wash off immediately with soap and plenty of water.
Consult a doctor if skin irritation persists.

After contact with eyes

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Seek medical treatment by eye specialist.

After ingestion

Do not induce vomiting.
Rinse out mouth and give plenty of water to drink.
Never give anything by mouth to an unconscious person.
Summon a doctor immediately.
Induce vomiting only upon the advice of a physician.

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

May damage fertility.
Causes serious eye irritation.
Causes skin irritation.
May cause an allergic skin reaction.

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

Treat symptoms.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Foam, carbon dioxide (CO2), dry chemical, water-spray.

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

Fire may produce:
carbon monoxide and carbon dioxide
Phenoles

5.3. Advice for firefighters

Use breathing apparatus with independent air supply.
Protective suit.

Additional information

Cool containers at risk with water spray jet.

Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Ensure adequate ventilation.
Remove persons to safety.

For non-emergency personnel

Avoid contact with skin, eyes and clothing.
Do not breathe vapours.

For emergency responders

In case of vapour formation use respirator.
Use personal protective clothing.

6.2. Environmental precautions

Clean contaminated surface thoroughly.
Do not discharge into the drains/surface waters/ground water.

6.3. Methods and material for containment and cleaning up

For containment

Prevent spread over a wide area (e.g. by containment or oil barriers).

For cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder).
Shovel into suitable container for disposal.

6.4. Reference to other sections

Observe protective instructions (see Sections 7 and 8).
Information for disposal see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Keep container tightly closed.
Use only in thoroughly ventilated areas.
Avoid contact with skin, eyes and clothing.

Advice on protection against fire and explosion

No special protective measures against fire required.

Advice on general occupational hygiene

Do not inhale vapours.
Wash hands before breaks and immediately after handling the product.
When using do not eat, drink or smoke.
Avoid contact with skin, eyes and clothing.
Remove and wash contaminated clothes before re-use.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a dry, cool and well-ventilated place.
Protect against direct sun radiation.
Recommended storage temperature: 10°C - 30°C

Hints on joint storage

Incompatible with:
Oxidizing agents
Amines
Acids and bases.

Further information on storage conditions

Keep away from food, drink and animal feeding stuffs.

7.3. Specific end use(s)

Bonding material

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional advice on limit values

This product does not contain any substances for which a Workplace Exposure Limit has been set in concentrations above the limits.

8.2. Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

Eye/face protection

Tightly fitting goggles (EN 166).
Eye wash bottle with pure water (EN 15154).

Hand protection

Protective gloves resistant to chemicals made off viton, minimum coat thickness 0.7 mm, permeation resistance (wear duration) approx. 30 minutes, i.e. protective glove <Vitoject 890> made by www.kcl.de.
Splash protection: Protective gloves resistant to chemicals made off nitrile, Minimum coat thickness 0.4 mm, Permeation resistance (wear duration) > 10 minutes.
This recommendation refers exclusively to the chemical compatibility and the lab test conforming to EN 374 carried out under lab conditions.
Requirements can vary as a function of the use. Therefore it is necessary to adhere additionally to the recommendations given by the manufacturer of protective gloves.
Pls. find examples in the protective gloves database under: http://bestglove.com/site/chemrest/

Skin protection

Long sleeved clothing (DIN EN ISO 6530)

Respiratory protection

No personal respiratory protective equipment normally required.
In case of insufficient ventilation wear suitable respiratory equipment (gas filter type A) (EN 14387).

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	Various
Odour:	Soft

		Test method
Changes in the physical state		
Melting point/freezing point:	n.d.	
Boiling point or initial boiling point and boiling range:	n.d.	
Sublimation point:	n.a.	
Softening point:	n.d.	
Flash point:	> 93 °C	(Calculated)

Flammability

Solid/liquid:	n.a.

Explosive properties

The product is not explosive.

Lower explosion limits:	n.d.
Upper explosion limits:	n.d.
Auto-ignition temperature:	n.d.

Self-ignition temperature

Solid:	n.a.
Gas:	n.a.
Decomposition temperature:	n.d.
pH-Value:	n.d.
Viscosity / dynamic:	465 - 700 mPa·s
Viscosity / kinematic:	n.d.
Flow time:	n.d.
Water solubility: (at 20 °C)	Immiscible

Solubility in other solvents

n.d.

Partition coefficient n-octanol/water:	n.d.
Vapour pressure:	n.d.
Density (at 23 °C):	approx. 1,14 g/cm³
Bulk density:	n.a.
Relative vapour density:	n.d.

9.2. Other information

Information with regard to physical hazard classes

Oxidizing properties

Not oxidising.

Other safety characteristics

Solvent separation test:	n.d.
Solvent content:	0 %
Evaporation rate:	n.d.

Further Information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No decomposition if stored and applied as directed.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Reactions with acids, alkalies and oxidizing agents
Reactions with amines.

10.4. Conditions to avoid

To avoid thermal decomposition, do not overheat.
Protect against direct sun radiation.

10.5. Incompatible materials

Strong oxidizing agents
Amines
Acids and bases.

10.6. Hazardous decomposition products

No known hazardous decomposition products.
Fire may produce:
Carbon monoxide and carbon dioxide
phenol

SECTION 11: Toxicological information

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

Acute toxicity

Based on available data, the classification criteria are not met.
No toxicological data available.

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation.
Serious eye damage/eye irritation: Causes serious eye irritation.

Sensitising effects

May cause an allergic skin reaction. (bis-[4-(2,3-epoxipropoxi)phenyl]propane; Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane; Bisphenol-F epoxy resin; Phenol, methylstyrenated)

Carcinogenic/mutagenic/toxic effects for reproduction

May damage fertility. (Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane)
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: 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.

Additional information on tests

Classification in compliance with the assessment procedure specified in the Regulation (EC) no 1272/2008.

11.2. Information on other hazards

Endocrine disrupting properties

No data available

SECTION 12: Ecological information

12.1. Toxicity

Ecological data are not available.
Toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

Not readily biodegradable.

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

The mixture contains the following substances fulfilling the vPvB criteria according to UK REACH: Phenol, methylstyrenated .

12.6. Endocrine disrupting properties

Endocrine disrupting properties: Phenol, methylstyrenated .

12.7. Other adverse effects

Hazardous water pollutant.

Further information

Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Can be incinerated, when in compliance with local regulations.
Where possible recycling is preferred to disposal.

List of Wastes Code - residues/unused products

080411 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); adhesive and sealant sludges containing organic solvents or other hazardous substances; hazardous waste

Contaminated packaging

Contaminated packagings are to be treated like the product itself.
Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.
Packaging that cannot be cleaned should be disposed of like the product.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 3082
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)
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 / 30 kg
Excepted quantity:	E1
Transport category:	3
Hazard No:	90
Tunnel restriction code:	-

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 3082

14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)
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 / 30 kg
Excepted quantity: E1

Marine transport (IMDG)
14.1. UN number or ID number: UN 3082
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)
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 / 30 kg
Excepted quantity: E1
EmS: F-A, S-F

Air transport (ICAO-TI/IATA-DGR)
14.1. UN number or ID number: UN 3082
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
Hazard label: 9

Special Provisions: A97 A158 A197 A215
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

Handle in accordance with good industrial hygiene and safety practice.

14.7. Maritime transport in bulk according to IMO instruments

The transport takes place only in approved and appropriate packaging.

SECTION 15: Regulatory information

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

EU regulatory information

Authorisations (REACH, annex XIV):

Substances of very high concern, SVHC (REACH, article 59):

Phenol, methylstyrenated

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 75

Directive 2004/42/EC on VOC in paints and varnishes:	< 5 %
Information according to Directive 2012/18/EU (SEVESO III):	E2 Hazardous to the Aquatic Environment

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

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 2,4,7,9,11,12,15.

Changes in section:

Abbreviations and acronyms

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
IMDG = International Maritime Code for Dangerous Goods
IATA/ICAO = International Air Transport Association / International Civil Aviation Organization
MARPOL = International Convention for the Prevention of Pollution from Ships
IBC-Code = International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk

GHS = Globally Harmonized System of Classification and Labelling of Chemicals
REACH = Registration, Evaluation, Authorization and Restriction of Chemicals
CAS = Chemical Abstract Service
EN = European norm
ISO = International Organization for Standardization
DIN = Deutsche Industrie Norm
PBT = Persistent Bioaccumulative and Toxic
vPvB = Very Persistent and very Bio-accumulative

LD = Lethal dose
LC = Lethal concentration
EC = Effect concentration
IC = Median immobilisation concentration or median inhibitory concentration

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

Classification	Classification procedure
Repr. 1A; H360F	Calculation method
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)

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H360F	May damage fertility.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Further Information

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.
(n.a. = not applicable; n.d. = not determined)

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