

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 18.02.2016

Version number 7

Revision: 18.02.2016

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

- **1.1 Product identifier**
- **Trade name: TREMCO ES100 B**
- **MSDS code: W-T-ES100B**
- **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** Epoxy curing agent
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
tremco illbruck Ltd
Coupland Road, Hindley Green, Wigan, WN2 4HT
Tel: +44 (0) 1942251400, Fax: +44 (0) 1942251410
msds@tremco-illbruck.com
- **Further information obtainable from:**
tremco illbruck Ltd
Coupland Road, Hindley Green, Wigan, WN2 4HT
T: +44 (0) 1942251400, F: +44 (0) 1942251410
www.tremco-illbruck.co.uk, uk.info@tremco-illbruck.com
- **1.4 Emergency telephone number:**
During office hours tel.: +44 (0) 1942251400. At all other times please contact your national poisoning centre.

SECTION 2: Hazards identification

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

Acute Tox. 4	H302	Harmful if swallowed.
Acute Tox. 4	H332	Harmful if inhaled.
Skin Corr. 1A	H314	Causes severe skin burns and eye damage.
Eye Dam. 1	H318	Causes serious eye damage.
Skin Sens. 1	H317	May cause an allergic skin reaction.
Repr. 2	H361f	Suspected of damaging fertility.
Aquatic Acute 1	H400	Very toxic to aquatic life.
Aquatic Chronic 1	H410	Very toxic to aquatic life with long lasting effects.

- **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**



GHS05 GHS07 GHS08 GHS09

- **Signal word** Danger

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- **Contains:**

Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine

Benzyl alcohol

3-aminopropyldimethylamine

4,4'-isopropylidenediphenol

- **Hazard statements**

H302+H332 Harmful if swallowed or if inhaled.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H361f Suspected of damaging fertility.

H410 Very toxic to aquatic life with long lasting effects.

- **Precautionary statements**

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P273 Avoid release to the environment.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Supplemental information:**

EUH071 Corrosive to the respiratory tract.

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**

- **Description:** Mixture of substances listed below with non-hazardous additions.

- **Dangerous components:**

CAS: 68919-79-9 EINECS: 272-905-0 Reg.nr.: 01-2119490750-36-xxxx (CAS 1226892-44-9)	Fatty acids, tall-oil, reaction products with triethylenetetramine ----- Skin Corr. 1C, H314; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Sens. 1, H317	20- <30%
CAS: 186321-96-0 Reg.nr.: 01-2119983521-35-xxxx	Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine ----- Eye Dam. 1, H318; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Irrit. 2, H315; Skin Sens. 1, H317	20- <30%

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CAS: 100-51-6 EINECS: 202-859-9 Reg.nr.: 01-2119492630-38-xxxx	Benzyl alcohol Acute Tox. 4, H302; Acute Tox. 4, H332; Eye Irrit. 2, H319	20- <30%
CAS: 2855-13-2 EINECS: 220-666-8 Reg.nr.: 01-2119514687-32-xxxx	3-aminomethyl-3,5,5-trimethylcyclohexylamine Skin Corr. 1B, H314; Eye Dam. 1, H318; Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317; Aquatic Chronic 3, H412	5- <10%
CAS: 1477-55-0 EINECS: 216-032-5 Reg.nr.: 01-2119480150-50-xxxx	m-phenylenebis(methylamine) Skin Corr. 1B, H314; Eye Dam. 1, H318; Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Sens. 1, H317; Aquatic Chronic 3, H412	5- <10%
CAS: 80-05-7 EINECS: 201-245-8 Reg.nr.: 01-2119457856-23-xxxx	4,4'-isopropylidenediphenol Repr. 2, H361f; Eye Dam. 1, H318; Aquatic Chronic 2, H411; Skin Sens. 1, H317; STOT SE 3, H335	5- <10%
CAS: 109-55-7 EINECS: 203-680-9 Reg.nr.: 01-2119486842-27-xxxx	3-aminopropyldimethylamine Flam. Liq. 3, H226; Skin Corr. 1B, H314; Eye Dam. 1, H318; Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317	5- <10%
CAS: 90-72-2 EINECS: 202-013-9 Reg.nr.: 01-2119560597-27-xxxx	2,4,6-tris(dimethylaminomethyl)phenol Skin Corr. 1C, H314; Eye Dam. 1, H318; Acute Tox. 4, H302; Skin Sens. 1B, H317; Aquatic Chronic 3, H412	1- <5%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· **General information:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Take affected persons out of danger area and lay down.

· **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.

If skin irritation continues, consult a doctor.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

· **4.2 Most important symptoms and effects, both acute and delayed**

Causes burns.

Breathing difficulty

Allergic reactions

· **Information for doctor:** No further relevant information available.

· **Hazards** No further relevant information available.

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- **4.3 Indication of any immediate medical attention and special treatment needed**
Treat skin and mucous membrane with antihistamine and corticoid preparations.

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.
Use fire extinguishing methods suitable to surrounding conditions.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
Ammonia
Carbon monoxide (CO)
Nitrogen oxides (NO_x)
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
- **Additional information**
Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
- **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.
Avoid contact with the eyes and skin.
The usual precautionary measures are to be adhered to when handling chemicals.
Ensure that washing facilities are available at the work place.
When the product is mixed, it is recommended to be used within 20 - 30 minutes.
Do not eat, drink, smoke or sniff while working.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store only in unopened original receptacles.

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- **Information about storage in one common storage facility:**
Do not store together with oxidising and acidic materials.
Protect from heat and direct sunlight.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Protect from humidity and water.
Store receptacle in a well ventilated area.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **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.
Avoid contact with the eyes and skin.
Do not eat, drink, smoke or sniff while working.
Ensure that washing facilities are available at the work place.
- **Respiratory protection:**
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.
Filter A
- **Protection of hands:**



Protective gloves

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

- **Material of gloves**

Neoprene gloves
PVA gloves
Impervious gloves
PVC 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.

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- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Protective work clothing

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form: Liquid
Colour: Amber coloured

- **Odour:** Fish-like

- **Boiling point/Boiling range:** > 200 °C

- **Flash point:** 76 °C

- **Danger of explosion:** Product does not present an explosion hazard.

- **Density at 20 °C:** 1.02 g/cm³

- **Solubility in / Miscibility with water:** Insoluble.

- **Viscosity:**

Dynamic at 23 °C: 835 - 1100 mPas

- **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** Stable

- **10.2 Chemical stability**

- **Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

- **10.3 Possibility of hazardous reactions**

Forms heat.

Exothermic reaction.

Reacts with strong acids.

Explosive reaction with oxidising agents such as calcium chlorate and or peroxides.

- **10.4 Conditions to avoid** Water / moisture.

- **10.5 Incompatible materials:**

Sodium nitrate / nitrates

May be corrosive to metals.

- **10.6 Hazardous decomposition products:**

Ammonia

Carbon monoxide

Nitrogen oxides

Aldehyde

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SECTION 11: Toxicological information

· 11.1 Information on toxicological effects

· Acute toxicity

Harmful if swallowed or if inhaled.

· LD/LC50 values relevant for classification:

186321-96-0 Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine

Oral LD50 >2000 mg/kg (rat)

Dermal LD50 >2000 mg/kg (rat)

100-51-6 Benzyl alcohol

Oral LD50 1230 mg/kg (rat)

Dermal LD50 2000 mg/kg (rabbit)

Inhalative LC50/8 h 1000 ppmV (rat)

2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine

Oral LD50 1000 mg/kg (rat)

1477-55-0 m-phenylenebis(methylamine)

Oral LD50 1040 mg/kg (rat)

Inhalative LC50/4 h 2.4 mg/L (rat)

80-05-7 4,4'-isopropylidenediphenol

Oral LD50 3250 mg/kg (rat)

Dermal LD50 3000 mg/kg (rabbit)

109-55-7 3-aminopropylidimethylamine

Oral LD50 1870 mg/kg (rat)

Dermal LD50 490 mg/kg (rabbit)

· Primary irritant effect:

· Skin corrosion/irritation

Causes severe skin burns and eye damage.

· Serious eye damage/irritation

Causes serious eye damage.

· Respiratory or skin sensitisation

May cause an allergic skin reaction.

· Additional toxicological information:

Harmful: danger of serious damage to health by prolonged exposure through inhalation.

· CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

· **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

Suspected of damaging fertility.

· **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.

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SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**
Very toxic for aquatic organisms
Do not allow product to reach ground water, water course or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
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.
Disposal must be made according to official regulations.
Can be disposed of with household garbage after solidification following consultation with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.
- **Waste disposal key:** UK (WM3) : HP6 HP8 HP10 HP13 HP14

· European waste catalogue

08 04 09*	waste adhesives and sealants containing organic solvents or other hazardous substances
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- **Uncleaned packaging:**
- **Recommendation:**
Dispose of packaging according to regulations on the disposal of packagings.
Packagings that may not be cleansed are to be disposed of in the same manner as the product.
Non contaminated packagings may be recycled.

SECTION 14: Transport information

- | | |
|---------------------------------------|--------|
| · 14.1 UN-Number | |
| · ADR, IMDG, IATA | UN2735 |
| · 14.2 UN proper shipping name | |

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<ul style="list-style-type: none"> · ADR · IMDG · IATA 	<p>2735 AMINES, LIQUID, CORROSIVE, N.O.S. (ISOPHORONEDIAMINE, m-phenylenebis(methylamine)), ENVIRONMENTALLY HAZARDOUS</p> <p>AMINES, LIQUID, CORROSIVE, N.O.S. (ISOPHORONEDIAMINE, m-phenylenebis(methylamine)), MARINE POLLUTANT</p> <p>Amines, liquid, corrosive, n.o.s. (Isophoronediamine, m-phenylenebis(methylamine))</p>
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· **14.3 Transport hazard class(es)**

· **ADR**



· **Class**
· **Label**

8 (C7) Corrosive substances.
8

· **IMDG**



· **Class**
· **Label**

8 Corrosive substances.
8

· **IATA**



· **Class**
· **Label**

8 Corrosive substances.
8

· **14.4 Packing group**

· **ADR, IMDG, IATA**

III

· **14.5 Environmental hazards:**

Product contains environmentally hazardous substances: Fatty acids, tall-oil, reaction products with triethylenetetramine, Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine

· **Marine pollutant:**

Yes

· **Special marking (ADR):**

Symbol (fish and tree)
Symbol (fish and tree)

· **14.6 Special precautions for user**

Warning: Corrosive substances.

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· Danger code (Kemler):	80
· EMS Number:	F-A,S-B
· Segregation groups	Alkalis
· Stowage Category	A
· Segregation Code	SG35 Stow "separated from" acids.
· 14.7 Transport in bulk according to Annex II of Marpol 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
· Tunnel restriction code	E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (I S O P H O R O N E D I A M I N E , M - P H E N Y L E N E B I S (M E T H Y L A M I N E)) , 8 , I I I , E N V I R O N M E N T A L L Y H A Z A R D O U S

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
 "CLP" Regulation (EC) No 1272/2008 (OJ L 353, 31.12.2008, p.1).
 "CHIP" SI 2009 No.716.
 "REACH" Regulation (EC) No 1907/2006 (OJ L 396, 30.12.2006, p.1, with subsequent amendments).
 COMMISSION REGULATION (EU) 2015/830 of 28 May 2015
- **National regulations:**
- **Information about limitation of use:**
 Employment restrictions concerning juveniles must be observed.
 Employment restrictions concerning pregnant and lactating women must be observed.
- **Other regulations, limitations and prohibitive regulations**
- **Substances of very high concern (SVHC) according to REACH, Article 57** Not applicable.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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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**

- H226 Flammable liquid and vapour.
- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- 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.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H361f Suspected of damaging fertility.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.

- **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 Harmonised 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)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- SVHC: Substances of Very High Concern
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 3: Flammable liquids, Hazard Category 3
- Acute Tox. 4: Acute toxicity, Hazard Category 4
- Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A
- Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
- Skin Corr. 1C: Skin corrosion/irritation, Hazard Category 1C
- Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
- Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
- Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
- Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
- Skin Sens. 1B: Sensitisation - Skin, Hazard Category 1B
- Repr. 2: Reproductive toxicity, Hazard Category 2
- STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
- Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1
- Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1
- Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2
- Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

- *** Data compared to the previous version altered.**