

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

1.1. Product identifier

Product form : Mixture
 Product name : ETELEC – RS Hardener

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Casting resin

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Etelec Italia SpA
 Via Domenico De Roberto
 80143 Napoli – Italy
 Contact person : Marco Salvago
 Tel +39 0815846610
tecnico@etelec.it

1.4. Emergency telephone number

Emergency number : +39 0815846610
 112 (24 hour service) – applicable to EU countries only

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (inhalation:dust,mist) Category 4	H332	Calculation method
Skin corrosion/irritation Category 2	H315	Calculation method
Serious eye damage/eye irritation, Category 2	H319	Calculation method
Sensitisation — Respiratory, Category 1	H334	Calculation method
Sensitisation — Skin, Category 1	H317	Calculation method
Carcinogenicity, Category 2	H351	Calculation method
Specific target organ toxicity (single exposure) Category 3	H335	Calculation method
Specific target organ toxicity (repeated exposure) Category 2	H373	Calculation method

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

GHS08

Signal word (CLP) :

Danger

Hazardous ingredients :

Diphenylmethane-4-4'-diisocyanate, isomeres and homologues

Hazard statements (CLP) :

H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H319 - Causes serious eye irritation
 H332 - Harmful if inhaled
 H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
 H335 - May cause respiratory irritation
 H351 - Suspected of causing cancer
 H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (CLP) :

P201 - Obtain special instructions before use

ETELEC – RS Hardener

Safety Data Sheet

according to Regulation (EU) 2015/830

P260 - Do not breathe dust, fume, gas, mist, spray, vapours
P280 - Wear protective gloves, protective clothing, eye protection, face protection
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P312 - Call a POISON CENTER, a doctor if you feel unwell
P362+P364 - Take off contaminated clothing and wash it before reuse

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Diphenylmethane-4-4'-diisocyanate, isomeres and homologues	(CAS No) 9016-87-9 (EC no) 618-498-9 REACH reg. No.: Not available	>40	Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: In all cases of doubt, or when symptoms persist, seek medical attention.
First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. In case of breathing difficulties administer oxygen. If you feel unwell, seek medical attention.
First-aid measures after skin contact	: After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap. Do not use solvents or thinners. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention if ill effect or irritation develops.
First-aid measures after ingestion	: If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting. Never give anything by mouth to an unconscious person. Consult a doctor/medical service if you feel unwell.

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

Symptoms/injuries after inhalation	: Harmful by inhalation. May cause sensitization by inhalation.
Symptoms/injuries after skin contact	: Causes skin irritation. May cause an allergic skin reaction.
Symptoms/injuries after eye contact	: Causes serious eye irritation.
Chronic symptoms	: Causes damage to organs through prolonged or repeated exposure. Suspected of causing cancer.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: dry chemical powder, alcohol-resistant foam, carbon dioxide (CO ₂). Water spray.
Unsuitable extinguishing media	: High power water jet.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Not combustible. Fire will produce dense black smoke.
Hazardous decomposition products in case of fire	: Hydrogen cyanide. Amines. carbon oxides (CO and CO ₂). Nitrogen oxides. Alcohols.

5.3. Advice for firefighters

Precautionary measures fire	: Evacuate the personnel away from the fumes.
Firefighting instructions	: Cool down the containers exposed to heat with a water spray.

ETELEC – RS Hardener

Safety Data Sheet

according to Regulation (EU) 2015/830

Protective equipment for firefighters	: Extra personal protection: complete protective clothing including self-contained breathing apparatus.
Other information	: Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment	: Avoid all eye and skin contact and do not breathe vapour and mist.
Emergency procedures	: Immediately contact emergency personnel.

6.1.2. For emergency responders

Protective equipment	: Wear suitable protective clothing, gloves and eye/face protection. Avoid breathing dust/fume/gas/mist/vapours/spray. In case of fire: Wear self-contained breathing apparatus.
Emergency procedures	: Eliminate all ignition sources if safe to do so.

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment	: Stop leak if safe to do so.
Methods for cleaning up	: Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Collect all waste in suitable and labelled containers and dispose according to local legislation. Clean with detergents. Avoid solvent cleaners.

6.4. Reference to other sections

For disposal of residues refer to section 13 : Disposal considerations. For further information refer to section 8: "Exposure controls/personal protection". see Section 1 for emergency contact information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Handle in accordance with good industrial hygiene and safety procedures. Avoid contact with skin and eyes. Do not breathe gas, fumes, vapour or spray. Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be exposed to any process in which this product is used.
Hygiene measures	: Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Keep container tightly closed in a cool, well-ventilated place. Never use pressure to empty container. Containers which are opened should be properly resealed and kept upright to prevent leakage. Minimize exposure to water contacting this material. DO NOT KEEP CONTAINERS SEALED.
Incompatible products	: Oxidizing agent. Strong acids. Strong bases.
Storage temperature	: 5 - 35 °C
Heat and ignition sources	: Store away from direct sunlight or other heat sources. Keep away from open flames, hot surfaces and sources of ignition.
Storage area	: Store in a place accessible by authorized persons only.
Packaging materials	: Store always product in container of same material as original container.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls	: Provide adequate ventilation.
Personal protective equipment	: Gloves. Safety glasses. Protective clothing. High gas/vapour concentration: gas mask.

ETELEC – RS Hardener

Safety Data Sheet

according to Regulation (EU) 2015/830

Hand protection	: Wear suitable gloves tested to EN374. Use neoprene or rubber gloves. Thickness of glove material: > 0,4 mm. Breakthrough time : > 480 min. Before use, the protective glove should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Preventive hand protection (skin protection cream) recommended. Wash immediately contaminated skin. Design operations thus to avoid permanent use of protective gloves.
Eye protection	: Use eye protection according to EN 166, designed to protect liquid splashes
Skin and body protection	: Wear suitable protective clothing
Respiratory protection	: Avoid breathing dust/fume/gas/mist/vapours/spray. An approved organic vapour respirator/supplied air or self-contained breathing apparatus must be used when vapour concentration exceeds applicable exposure limits



Other information	: Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be exposed to any process in which this product is used.
-------------------	---

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Dark.
Odour	: characteristic.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: > 100 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.2 g/cm ³ @ 20 °C
Solubility	: insoluble in water.
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

ETELEC – RS Hardener

Safety Data Sheet

according to Regulation (EU) 2015/830

10.3. Possibility of hazardous reactions

No polymerization. The product reacts slowly with water resulting in evolution of carbon dioxide. In closed containers, pressure build up could result distortion blowing and in extreme cases bursting of the container.

10.4. Conditions to avoid

heat/sparks/open flames/hot surfaces.

10.5. Incompatible materials

oxidizing agents. Strong acids. Strong bases.

10.6. Hazardous decomposition products

Carbon oxides (CO, CO₂). Nitrogen oxides (NO_x). Hydrogen cyanide. Amines. Alcohol.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Inhalation:dust,mist: Harmful if inhaled.
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected of causing cancer.
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: May cause respiratory irritation.
Specific target organ toxicity (repeated exposure)	: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

ETELEC – RS Hardener

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

Additional information : Avoid release to the environment

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Consult the appropriate local waste disposal expert about waste disposal.
Waste disposal recommendations	: Contaminated packaging: Recycle or dispose of in compliance with current legislation.
Ecology - waste materials	: Wastes isocyanates.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR)	: Not applicable
UN-No. (IMDG)	: Not applicable
UN-No. (IATA)	: Not applicable
UN-No. (ADN)	: Not applicable

ETELEC – RS Hardener

Safety Data Sheet

according to Regulation (EU) 2015/830

UN-No. (RID) : Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable

Proper Shipping Name (IMDG) : Not applicable

Proper Shipping Name (IATA) : Not applicable

Proper Shipping Name (ADN) : Not applicable

Proper Shipping Name (RID) : Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable

Packing group (IMDG) : Not applicable

Packing group (IATA) : Not applicable

Packing group (ADN) : Not applicable

Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport

Not applicable

- Transport by sea

Not applicable

- Air transport

Not applicable

- Inland waterway transport

Not applicable

- Rail transport

Not applicable

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

ETELEC – RS Hardener

Safety Data Sheet

according to Regulation (EU) 2015/830

15.1.2. National regulations

Germany

VwVwS Annex reference : Water hazard class (WGK) 3, severe hazard to waters (Classification according to VwVwS, Annex 4)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

Denmark

Classification remarks : Emergency management guidelines for the storage of flammable liquids must be followed

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product
The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

15.2. Chemical safety assessment

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]
No chemical safety assessment has been carried out for the substance or the mixture by the supplier

SECTION 16: Other information

This SDS was prepared by Intertek. However, the information is provided without any warranty, expressed or implied regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable. Users should make their own investigations to determine the suitability of the information or products for their particular purpose. The conditions or methods of handling, storage, use, and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, Intertek does not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with handling, storage, use or disposal of the product.

Abbreviations and acronyms:

SDS	Safety Data Sheet
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
OECD	Organisation for Economic Co-operation and Development
IMDG	International Maritime Dangerous Goods
IATA	International Air Transport Association
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
PBT	Persistent Bioaccumulative Toxic
vPvB	Very Persistent and Very Bioaccumulative
	CAS (Chemical Abstracts Service) number

Other information : This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. It is the user's responsibility to take the mentioned precautionary measures and to ensure that this information is complete and sufficient for the use of this product.

Full text of H- and EUH-statements:

Acute Tox. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Carc. 2	Carcinogenicity, Category 2
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Resp. Sens. 1	Sensitisation — Respiratory, Category 1
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Sensitisation — Skin, Category 1
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2

ETELEC – RS Hardener

Safety Data Sheet

according to Regulation (EU) 2015/830

STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H373	May cause damage to organs through prolonged or repeated exposure

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product