

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

1.1. Product identifier

Product form : Substance
 Substance name : Hardener TP E27 Slow
 EC-No. : 618-561-0
 CAS-No. : 9046-10-0

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

1.2.1. Relevant identified uses

Main use category : Industrial use, Professional use
 Use of the substance/mixture : B component for TP RESIN

1.2.2. Uses advised against

No additional information available.

1.3. Details of the supplier of the safety data sheet

Quartzline BV
 W.A. Boogaerdstraat 5
 3316 BN Dordrecht - Nederland
 T +31 (0)78 6513100 - F +31 (0)78 6177390
info@quartzline.nl - www.quartzline.nl

1.4. Emergency telephone number

Emergency number : +31 (0)78 6513100
 This number is serviced during office hours.

Country	Official advisory body	Address	Emergency number	Remark
United Kingdom	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BA Belfast	0344 892 0111	Only for the purpose of informing medical personnel in cases of acute intoxications

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Skin corrosion/irritation, Category 1, Sub-Category 1C H314
 Serious eye damage/eye irritation, Category 1 H318
 Hazardous to the aquatic environment — Chronic Hazard, Category 3 H412
 Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

Causes severe skin burns and eye damage. Harmful to aquatic life with long lasting effects.

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS05

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H314 - Causes severe skin burns and eye damage.
 H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (CLP) :

P280 - Wear protective clothing, protective gloves, eye protection.
 P301+P330+P331+P310 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Immediately call a doctor, a POISON CENTER.
 P303+P361+P353+P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.. Immediately call a doctor, a POISON CENTER.
 P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor, a POISON CENTER.
 P501 - Dispose of contents and container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Hardener TP E27 Slow

Safety Data Sheet

According to Regulation (EU) 2015/830, 2020/878 (REACH Annex II)

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. Substances

Name : Hardener TP E27 Slow
CAS-No. : 9046-10-0
EC-No. : 618-561-0

Name	Product identifier	Conc. (% w/w)	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia	CAS-No.: 9046-10-0 EC-No.: 618-561-0 REACH-no: 01-2119557899-12	≥ 90	Skin Corr. 1C, H314 Eye Dam. 1, H318 Aquatic Chronic 3, H412

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

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Take off immediately all contaminated clothing. Rinse skin with water/shower. Get immediate medical advice/attention.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Get immediate medical advice/attention.

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

Symptoms/effects after skin contact : Burns.
Symptoms/effects after eye contact : Serious damage to eyes.
Symptoms/effects after ingestion : Burns.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Presents no particular fire or explosion hazard.
Hazardous decomposition products in case of fire : Toxic fumes may be released. Carbon oxides (CO, CO₂). Aldehydes. Ketones. ammonia.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Do not breathe vapours, mist.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

Hardener TP E27 Slow

Safety Data Sheet

According to Regulation (EU) 2015/830, 2020/878 (REACH Annex II)

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Neutralize with an acid. Take up liquid spill into absorbent material.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". Concerning disposal elimination after cleaning, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Do not breathe vapours, mist. Wear personal protective equipment.
Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool well ventilated place. Keep container closed when not in use. Store locked up.
Incompatible products : Strong acids.
Heat and ignition sources : Keep away from heat and direct sunlight.

7.3. Specific end use(s)

No additional information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. National occupational exposure and biological limit values

No additional information available.

8.1.2. Recommended monitoring procedures

No additional information available.

8.1.3. Air contaminants formed

No additional information available.

8.1.4. DNEL and PNEC

No additional information available.

8.1.5. Control banding

No additional information available.

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:

protective clothing. Gloves. Safety glasses.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses. Standard EN 166 - Personal eye-protection - specifications

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing. EN 340

Hand protection:

Wear suitable gloves resistant to chemical penetration. Chemical resistant gloves (according to European standard NF EN 374 or equivalent).

Hardener TP E27 Slow

Safety Data Sheet

According to Regulation (EU) 2015/830, 2020/878 (REACH Annex II)

Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Gloves	butyl rubber, Nitrile rubber (NBR), Polyvinylchloride (PVC)	6 (> 480 minutes)	>0.4		EN 374

8.2.2.3. Respiratory protection

Respiratory protection:

No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation

8.2.2.4. Thermal hazards

No additional information available.

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless.
Odour	: ammonia odour.
Odour threshold	: No data available.
pH	: 11,7
pH solution	: 50 g/l
Relative evaporation rate (butylacetate=1)	: No data available.
Melting point	: No data available.
Freezing point	: No data available.
Boiling point	: 232 °C
Flash point	: 128 °C (ISO 2719; closed cup)
Auto-ignition temperature	: 230 °C
Decomposition temperature	: No data available.
Flammability (solid, gas)	: No data available.
Vapour pressure	: 0,9 hPa (20 °C)
Vapour pressure at 50 °C	: 2,1 hPa
Relative vapour density at 20 °C	: 1
Relative density	: 0,9476
Solubility	: Water: 100 g/l (20 °C)
Partition coefficient n-octanol/water (Log Pow)	: No data available.
Viscosity, kinematic	: 10,9 mm ² /s (@ 20 °C; 5,46 mm ² /s @ 40 °C)
Viscosity, dynamic	: 10,3 mPa·s (@ 20 °C; 5,08 mPa·s @ 40 °C)
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

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Strong acids.

Hardener TP E27 Slow

Safety Data Sheet

According to Regulation (EU) 2015/830, 2020/878 (REACH Annex II)

10.6. Hazardous decomposition products

No additional information available.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia (9046-10-0)	
LD50 oral rat	2885 mg/kg
LD50 dermal rabbit	2980 mg/kg
ATE oral	2885 mg/kg bodyweight
ATE dermal	2980 mg/kg bodyweight

Skin corrosion/irritation	: Causes severe skin burns. pH: 11,7
Serious eye damage/irritation	: Causes serious eye damage. pH: 11,7
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

Hardener TP E27 Slow (9046-10-0)	
Viscosity, kinematic	10,9 mm ² /s (@ 20 °C; 5,46 mm ² /s @ 40 °C)

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Harmful to aquatic life with long lasting effects.

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia (9046-10-0)	
LC50 - Fish [1]	> 15 mg/l (OECD 203; Oncorhynchus mykiss)
EC50 - Crustacea [1]	80 mg/l (OECD 202; Daphnia magna)
ErC50 algae	15 mg/l (OECD 201; Pseudokirchneriella subcapitata)
NOEC chronic algae	0,32 mg/l (OECD 201; Pseudokirchneriella subcapitata)

12.2. Persistence and degradability

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia (9046-10-0)	
Persistence and degradability	Not readily biodegradable.

12.3. Bioaccumulative potential

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia (9046-10-0)	
Partition coefficient n-octanol/water (Log Pow)	1,34 (25 °C)

12.4. Mobility in soil

No additional information available.

12.5. Results of PBT and vPvB assessment

Hardener TP E27 Slow (9046-10-0)	
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

No additional information available.

Hardener TP E27 Slow

Safety Data Sheet

According to Regulation (EU) 2015/830, 2020/878 (REACH Annex II)






SECTION 13: Disposal considerations

13.1. Waste treatment methods

: Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
UN 2735	UN 2735	UN 2735	UN 2735	UN 2735
14.2. UN proper shipping name				
AMINES, LIQUID, CORROSIVE, N.O.S. (Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia)	AMINES, LIQUID, CORROSIVE, N.O.S. (Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia)	Amines, liquid, corrosive, n.o.s. (Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia)	AMINES, LIQUID, CORROSIVE, N.O.S. (Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia)	AMINES, LIQUID, CORROSIVE, N.O.S. (Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia)
Transport document description				
UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia), 8, III, (E)	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia), 8, III	UN 2735 Amines, liquid, corrosive, n.o.s. (Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia), 8, III	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia), 8, III	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia), 8, III
14.3. Transport hazard class(es)				
8	8	8	8	8
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available.				

14.6. Special precautions for user

Overland transport

Classification code (ADR)	: C7
Special provisions (ADR)	: 274
Limited quantities (ADR)	: 5I
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P001, IBC03, LP01, R001
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T7
Portable tank and bulk container special provisions (ADR)	: TP1, TP28
Tank code (ADR)	: L4BN
Vehicle for tank carriage	: AT
Transport category (ADR)	: 3
Special provisions for carriage - Packages (ADR)	: V12
Hazard identification number (Kemler No.)	: 80

Hardener TP E27 Slow

Safety Data Sheet

According to Regulation (EU) 2015/830, 2020/878 (REACH Annex II)

Orange plates : 

Tunnel restriction code (ADR) : E

EAC code : 2X

Transport by sea

Special provisions (IMDG) : 223, 274

Limited quantities (IMDG) : 5 L

Excepted quantities (IMDG) : E1

Packing instructions (IMDG) : P001, LP01

IBC packing instructions (IMDG) : IBC03

Tank instructions (IMDG) : T7

Tank special provisions (IMDG) : TP1, TP28

EmS-No. (Fire) : F-A

EmS-No. (Spillage) : S-B

Stowage category (IMDG) : A

Segregation (IMDG) : SGG18, SG35

Properties and observations (IMDG) : Colourless to yellowish liquids or solutions with a pungent odour. Miscible with or soluble in water. When involved in a fire, evolve toxic gases. Corrosive to most metals, especially to copper and its alloys. Reacts violently with acids. Cause burns to skin, eyes and mucous membranes.

Air transport

PCA Excepted quantities (IATA) : E1

PCA Limited quantities (IATA) : Y841

PCA limited quantity max net quantity (IATA) : 1L

PCA packing instructions (IATA) : 852

PCA max net quantity (IATA) : 5L

CAO packing instructions (IATA) : 856

CAO max net quantity (IATA) : 60L

Special provisions (IATA) : A3, A803

ERG code (IATA) : 8L

Inland waterway transport

Classification code (ADN) : C7

Special provisions (ADN) : 274

Limited quantities (ADN) : 5 L

Excepted quantities (ADN) : E1

Equipment required (ADN) : PP, EP

Number of blue cones/lights (ADN) : 0

Rail transport

Classification code (RID) : C7

Special provisions (RID) : 274

Limited quantities (RID) : 5L

Excepted quantities (RID) : E1

Packing instructions (RID) : P001, IBC03, LP01, R001

Mixed packing provisions (RID) : MP19

Portable tank and bulk container instructions (RID) : T7

Portable tank and bulk container special provisions (RID) : TP1, TP28

Tank codes for RID tanks (RID) : L4BN

Transport category (RID) : 3

Special provisions for carriage – Packages (RID) : W12

Colis express (express parcels) (RID) : CE8

Hardener TP E27 Slow

Safety Data Sheet

According to Regulation (EU) 2015/830, 2020/878 (REACH Annex II)

Hazard identification number (RID) : 80

14.7. Transport in bulk according to Annex II of Marpol 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

EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
3(b)	Hardener TP E27 Slow ; Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10
3(c)	Hardener TP E27 Slow ; Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1

Hardener TP E27 Slow is not on the REACH Candidate List

Hardener TP E27 Slow is not on the REACH Annex XIV List

Hardener TP E27 Slow is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Hardener TP E27 Slow is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

No additional information available.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms	
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
ATE	Acute Toxicity Estimate
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LD50	Median lethal dose
PBT	Persistent Bioaccumulative Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative

Data sources : ECHA (European Chemicals Agency). according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878.

Hardener TP E27 Slow

Safety Data Sheet

According to Regulation (EU) 2015/830, 2020/878 (REACH Annex II)

Other information

: REACH Disclaimer:

This information is based on current knowledge. Consistency of data in the SDS with CSR is considered, as far as the information is available at the time of compilation (cfr Revision date and Version number). **DISCLAIMER OF LIABILITY** The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. 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.

Full text of H- and EUH-statements

Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H412	Harmful to aquatic life with long lasting effects.
Skin Corr. 1C	Skin corrosion/irritation, Category 1, Sub-Category 1C

Safety Data Sheet applicable for regions : GB - United Kingdom

The classification complies with : ATP 12

This Safety Data Sheet is compiled by: ChemPros B.V. | +31(0)797676006 | info@chemprosbv.nl