

SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006,
Regulation (EC) No 1272/2008,
Regulation (EU) No 2015/830



Combined fire retardant system Stabiterm-400.

Revision Date 05.12.2018

Version: 1.0

EU / EN

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/ UNDERTAKING

1.1 Product identifier

Trade name : Combined fire retardant system Stabiterm-400.
Chemical name : Not applicable.
CAS-No : Not applicable.
EC-No : Not applicable.
Registration number : Not applicable (product is a mixture).

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

Use of the Substance/ : Use as fire retardant paint.

Mixture

1.3 Details of the supplier of the safety data sheet

Company : LLC NPF Fire protection engineering laboratory
Avtozavodskoye shosse (Avtozavodskoye Highway), 51,
Dzerzhinsk, Nizhniy Novgorod region, Russia, 606000

Telephone : +7(8313)23-00-11

E-mail address : info@stabiterm.ru

Only representative : Not applicable.

Telephone : Not applicable.

E-mail address : Not applicable.

1.4 Emergency telephone number

Austria: Poison Control Centre, Tel.: (+43)-1-406-43-43;

Belgium: Belgisch Antigifcentrum, Tel.: 070-245-245;

Croatia: Poison Control Centre, Tel: (+385)-1-23-48-342;

Czech Republic: Toxikologické informační středisko Tel.: (+420)-224-919-293,
(+420)-224-915-402;

Denmark: Poison Control Hotline, Tel.: (+45)-82-12-12-12;

Estonia: National emergency telephone number: 112 or Poison information telephone number:
16662, calling from abroad: (+372) 7943-794;

Finland: Poison Information Centre, Tel.: (09)-471-977 (direct) or (09)-4711;

France: ORFILA (INRS), Tel.: (+33)-(0)-1-45-42-59-59;

Hungary: Az Egészségügyi Toxikológiai Tájékoztató Szolgálat elérhetőségei Tel: (+36)-80-201-199;

Iceland : Landspítali - The National University Hospital of Iceland, Tel.: (+354) 543-1000 or 112;

Latvia: Valsts Toksikoloģijas centra Saindēšanās un zāļu informācijas centrs, Tel.: (+371)-67042473;

Lithuania: Sveikatos apsaugos ministerijos ekstremalių sveikatai situacijų centras,
Tel.: (+370)-5-236-20-52;

Luxembourg: Belgian Poison Center, Tel.: (+352) 8002-5500;

Malta: Mater Dei Hospital, Tel: 2545-0000;

Kingdom of Norway: 113;

Sweden: Swedish Poisons Information Centre, Tel.: (+46) 10-456-6700 or 112.

Note: please, consult with your local/national competent authorities for the emergency number in your country.

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SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to REGULATION (EC) No 1272/2008

Component A

Eye irritation, Category 2

H319: Causes serious eye irritation.

Reproductive toxicity, Category 2

H361d: Suspected of the unborn child.

Aquatic Acute, Category 1

H400: Very toxic to aquatic life.

Aquatic Chronic, Category 1

H410: Very toxic to aquatic life with long lasting effects.

Component B

Acute toxicity – Inh., Category 4

H332: Harmful if inhaled.

Skin irritation, Category 2

H315: Causes skin irritation.

Skin sensitization, Category 1

H317: May cause an allergic skin reaction.

Eye irritation, Category 2

H319: Causes serious eye irritation.

Respiratory sensitisation, Category 1

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Specific target organ toxicity after single exposure, Category 3

H335: May cause respiratory irritation.

Carcinogenicity, Category 2

H351: Suspected of causing cancer.

Specific target organ toxicity after repeated exposure, Category 2

H373: May cause damage to organs (upper respiratory tracts, lungs) through prolonged or repeated exposure (inhalation).

Compound (A+B)

Skin irritation, Category 2

H315: Causes skin irritation.

Skin sensitization, Category 1

H317: May cause an allergic skin reaction.

Eye irritation, Category 2

H319: Causes serious eye irritation.

Respiratory sensitisation, Category 1

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Carcinogenicity, Category 2

H351: Suspected of causing cancer.

Specific target organ toxicity after repeated exposure, Category 2

H373: May cause damage to organs (upper respiratory tracts, lungs) through prolonged or repeated exposure (inhalation).

2.2 Label elements

Labelling according to REGULATION (EC) No 1272/2008

Component A

Hazard pictogram (s) :



GHS07: exclamation mark



GHS08: health hazard



GHS09: environment

Signal Word :

Warning.

H319

: Causes serious eye irritation.

H361d

: Suspected of the unborn child.

H410

: Very toxic to aquatic life with long lasting effects.

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- Precautionary statements : **Prevention:**
- P201 : Obtain special instructions before use.
 - P280 : Wear protective gloves, protective clothing, eye protection, face protection.
 - P273 : Avoid release to the environment.
- Response:**
- P305+P351+P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - P308+P313 : IF exposed or concerned: Get medical advice or attention.
 - P337+P313 : If eye irritation persists: Get medical advice or attention.

All precautionary statements see Section 16.

Component B

Hazard pictogram (s) :



GHS07: exclamation mark



GHS08: health hazard

- Signal Word : Warning.
- H332 : Harmful if inhaled.
 - H315 : Causes skin irritation.
 - H317 : May cause an allergic skin reaction.
 - H319 : Causes serious eye irritation.
 - 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 (upper respiratory tracts, lungs) through prolonged or repeated exposure (inhalation).

- Precautionary statements : **Prevention:**
- P260 : Do not breathe mist or spray.
 - P280 : Wear protective gloves, protective clothing, eye protection, face protection.
 - P284 : In case of inadequate ventilation wear respiratory protection.
- Response:**
- P304+P340+P310+P312 : If INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.
 - P305+P351+P338+P312 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER or doctor if you feel unwell.
 - P342+P311 : If experiencing respiratory symptoms: Call a POISON CENTER or doctor or physician.

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All precautionary statements see Section 16.

Compound (A+B)

Hazard pictogram (s) :



GHS07: exclamation mark



GHS08: health hazard

Signal Word

: Warning.

- H315 : Causes skin irritation.
- H317 : May cause an allergic skin reaction.
- H319 : Causes serious eye irritation.
- H334 : May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H351 : Suspected of causing cancer.
- H373 : May cause damage to organs (upper respiratory tracts, lungs) through prolonged or repeated exposure (inhalation).

Precautionary statements : **Prevention:**

- P260 : Do not breathe mist or spray.
- P280 : Wear protective gloves, protective clothing, eye protection, face protection.

Response:

- P302+P352+ : IF ON SKIN: Wash with plenty of water. Get medical advice or attention if you feel unwell.
- P314 : IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P304+P340 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice or attention if you feel unwell.
- P338+P314 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice or attention if you feel unwell.
- P342+P311 : If experiencing respiratory symptoms: Call a POISON CENTER or doctor or physician.

All precautionary statements see Section 16.

2.3 Other hazards

This substance/mixture does not meet the PBT/vPvB criteria of REACH Annex XIII.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

The product is a mixture within the meaning of the REACH Regulation (1907/2006/EC).

The following table contains the main constituent at the top.

Chemical name	Concentration, wt. %	CAS-No	EC-No / Registration number	Index-No	CLP
<u>Component A</u>	100	-	-	-	Eye Irrit. 2, H319 Repr. 2, H361d Aquatic Acute 1, H400

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Chemical name	Concentration, wt. %	CAS-No	EC-No / Registration number	Index-No	CLP
					Aquatic Chronic 1, H410
Glycerol propoxylated	35 – 50	25791-96-2	500-044-5 / Not available	Not available	Eye Irrit. 2, H319
Polyphosphoric acids, ammonium salts	15 – 40	68333-79-9	269-789-9 / Not available	Not available	Eye Irrit. 2, H319
Boric acid, zinc salt	10 – 25	1332-07-6	215-566-6 / Not available	Not available	Eye Irrit. 2, H319 Repr. 2, H361d Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Tris(2-chloro-1-methylethyl) phosphate	3 – 15	13674-84-5	237-158-7 / Not available	Not available	Acute Tox. 4, H302
Titanium dioxide	10	13463-67-7	236-675-5 / Not available	Not available	Not classified

For the full text of the H-phrases mentioned in this Section, see Section 16.

The product is a mixture within the meaning of the REACH Regulation (1907/2006/EC).
The following table contains the main constituent at the top.

Chemical name	Concentration, wt. %	CAS-No	EC-No / Registration number	Index-No	CLP
<u>Component B</u> 1,1'-methanediylbis(4-isocyanatobenzene)	100	101-68-8	202-966-0 / No available	615-005-00-9	Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Resp. Sens. 1, H334 STOT SE 3, H335 Carc. 2, H351 STOT RE 2, H373

For the full text of the H-phrases mentioned in this Section, see Section 16.

The product is a mixture within the meaning of the REACH Regulation (1907/2006/EC).
The following table contains the main constituent at the top.

Chemical name	Concentration, wt. %	CAS-No	EC-No / Registration number	Index-No	CLP
<u>Compound (A+B)</u>	100	-	-	-	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Resp. Sens. 1, H334 Carc. 2, H351 Repr. 2, H361d STOT RE 2, H373
Glycerol propoxylated	28 - 40	25791-96-2	500-044-5 / No data available	Not available	Eye Irrit. 2, H319
Polyphosphoric acids, ammonium salts	12 - 32	68333-79-9	269-789-9 / Not available	Not available	Eye Irrit. 2, H319
Boric acid, zinc salt	8 - 20	1332-07-6	215-566-6 / No data available	Not available	Eye Irrit. 2, H319 Repr. 2, H361d Aquatic Acute 1, H400 Aquatic Chronic 1, H410
1,1'-methanediylbis(4-isocyanatobenzene)	≤ 20	101-68-8	202-966-0 / No available	615-005-00-9	Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Resp. Sens. 1, H334 STOT SE 3, H335 Carc. 2, H351

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Chemical name	Concentration, wt. %	CAS-No	EC-No / Registration number	Index-No	CLP
					STOT RE 2, H373
Tris(2-chloro-1-methylethyl) phosphate	2.4 - 12	13674-84-5	237-158-7 / No data available	Not available	Acute Tox. 4, H302
Titanium dioxide	1.6 – 5.6	13463-67-7	236-675-5 / Not available	Not available	Not classified

For the full text of the H-phrases mentioned in this Section, see Section 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Component A, Component B, Compound (A+B)

- General advice : In the case of accident or if you feel unwell, seek medical advice (show the label where possible). First aider needs to protect himself. Move out of dangerous area. Never give anything by mouth to an unconscious person.
- Inhalation : If breathed in, move person into fresh air. Keep patient warm and at rest. Call a physician.
- Skin contact : In case of contact, immediately flush skin with soap and plenty of water. If symptoms persist, call a physician.
- Eye contact : Protect unharmed eye. If easy to do, remove contact lens, if worn. Rinse thoroughly with plenty of water and call a physician.
- Ingestion : Rinse mouth with water. Get medical attention if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

Suitable extinguishing media : Use a dry sand, chemical foam or carbon dioxide, foam system (fixed mechanical foam extinguishing installation or foam fire extinguisher), fire blanket, noble gas.

Unsuitable extinguishing media : Not data available.

5.2 Special hazards arising from the substance or mixture

Specific hazards : Hazardous decomposition products may be formed under fire conditions (see section 10). Exposure to decomposition products may be a hazard to health.

5.3 Advice fire fighters

Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

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Further information : Standard procedure for chemical fires. Fight fire remotely. Containers may explode if heated. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedure

Refer to protective measures listed in sections 7 and 8. Use personal protective equipment. Immediately evacuate personnel to safe areas. Avoid contact with skin and eyes. Avoid breathe mist or spray.

6.2 Environmental precautions

Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities. Avoid release to the environment.

6.3 Methods and materials for containment and cleaning up

Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations. Clean contaminated surface thoroughly.

6.4 Reference to other sections

See Section 7, 8, 11, 12 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling : For personal protection see section 8. Avoid contact with skin and eyes. Keep away from sources of ignition – No smoking. Do not breathe mist or spray. Take precautionary measures against static discharges. Use appropriate container to avoid environmental contamination. Do not carry cloths that have come into contact with the product in your clothing. Handle with care. Avoid exposure - obtain special instructions before use.

Advice on protection against fire and explosion : Normal measures for preventive fire protection. Keep away from heat, sparks, flame and direct sunlight.

7.2 Conditions for safe storage including any incompatibilities

Requirements for storage : Keep locked up or in an area accessible only to qualified or authorized persons. Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Component A: Store in metal buckets (20 kg) or metal cans (4 kg).

Component B: Store in metal cans with packing layers (5 kg) or metal cans (1 kg).

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Advice on common storage : Avoid moisture, atmospheric oxygen and direct sunlight.
Keep away from food, drink and animal feeding stuffs.
Incompatible with oxidizing agents, bases and acids

Storage period : 6 months.

Storage temperature : 10 – 35 °C

7.3 Specific end use(s)

No data available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components	CAS-No	Control parameters	Basis	Country
1,1'-methanediybis(4-isocyanatobenzene)	101-68-8	TWA: 0.01 ppm TWA: 0.1 mg/m ³ STEL: 0.02 ppm STEL: 0.2 mg/m ³	ED 984	France
1,1'-methanediybis(4-isocyanatobenzene)	101-68-8	VLA-ED: 0.005 ppm VLA-ED: 0.052 mg/m ³	OEL for Spain, 2015	Spain
1,1'-methanediybis(4-isocyanatobenzene)	101-68-8	MAK: 0.05 mg/m ³ AGW: 0.05 mg/m ³	DFG TRGS 900	Germany
1,1'-methanediybis(4-isocyanatobenzene)	101-68-8	VLE-MP: 0.005 ppm	NP 1796:2014	Portugal
1,1'-methanediybis(4-isocyanatobenzene)	101-68-8	TWA: 0.005 ppm TWA: 0.05 mg/m ³	Statutory Order No 507 17.05.2011 with add.	Denmark
1,1'-methanediybis(4-isocyanatobenzene)	101-68-8	STEL: 0.01 ppm STEL: 0.1 mg/m ³ TWA: 0.005 ppm TWA: 0.05 mg/m ³	BGBI.I Nr 51/2011	Austria
1,1'-methanediybis(4-isocyanatobenzene)	101-68-8	NDS: 0.03 mg/m ³ NDSch: 0.09 mg/m ³	Dz.U. 2014 Nr. 0, 817 of June 6, 2014	Poland
1,1'-methanediybis(4-isocyanatobenzene)	101-68-8	TWA: 0.02 mg/m ³ STEL: 0.07 mg/m ³	S.I. No619 of 2001	Ireland
1,1'-methanediybis(4-isocyanatobenzene)	101-68-8	TWA: 0.005 ppm TWA: 0.052 mg/m ³	MB 14.3.2002 with addendum	Belgium
1,1'-methanediybis(4-isocyanatobenzene)	101-68-8	TWA: 0.05 mg/m ³ STEL: 0.1 mg/m ³	Decree No 84/2001 with add.	Croatia
1,1'-methanediybis(4-isocyanatobenzene)	101-68-8	Ceiling: 0.01 ppm Ceiling: 0.1 mg/m ³ TWA: 0.005 ppm TWA: 0.05 mg/m ³	Reg. No 293	Estonia
1,1'-methanediybis(4-isocyanatobenzene)	101-68-8	CK: 0.05 mg/m ³ AK: 0.05 mg/m ³	Decree No 25/2000 with add.	Hungary
1,1'-methanediybis(4-isocyanatobenzene)	101-68-8	IPRD: 0.005 mg/m ³ IPRD: 0.05 mg/m ³ NRD: 0.01 ppm NRD: 0.1 mg/m ³	Order V-824/A1-389	Lithuania

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Components	CAS-No	Control parameters	Basis	Country
1,1'-methanediylbis(4-isocyanatobenzene)	101-68-8	STEL: 0.05 mg/m ³ TWA: 0.002 mg/m ³ TWA: 0.03 mg/m ³	Government Decree 300/2007	Slovak Republic
1,1'-methanediylbis(4-isocyanatobenzene)	101-68-8	STEL: 0.05 mg/m ³ TWA: 0.05 mg/m ³	OEL-SLO	Slovenia
1,1'-methanediylbis(4-isocyanatobenzene)	101-68-8	LLV: 0.002 ppm LLV: 0.03 mg/m ³ CLV: 0.005 ppm CLV: 0.05 mg/m ³	AFS 2005:17	Sweden
Titanium dioxide	13463-67-7	STEL: 30 mg/m ³ STEL: 12 mg/m ³ TWA: 10 mg/m ³ TWA: 4 mg/m ³	EH40/2005	The United Kingdom
Titanium dioxide	13463-67-7	TWA: 10 mg/m ³	ED 984	France
Titanium dioxide	13463-67-7	VLA-ED: 10 mg/m ³	OEL for Spain, 2015	Spain
Titanium dioxide	13463-67-7	VLE-MP: 10 mg/m ³	NP 1796:2014	Portugal
Titanium dioxide	13463-67-7	TWA: 6 mg/m ³	Statutory Order No 507 17.05.2011 with add.	Denmark
Titanium dioxide	13463-67-7	STEL: 10 mg/m ³ TWA: 5 mg/m ³	BGBl.I Nr 51/2011	Austria
Titanium dioxide	13463-67-7	NDS: 10.0 mg/m ³	Dz.U. 2014 Nr. 0, 817 of June 6, 2014	Poland
Titanium dioxide	13463-67-7	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³	S.I. No619 of 2001	Ireland
Titanium dioxide	13463-67-7	TWA: 10 mg/m ³ TWA: 5 mg/m ³	Presidential Decrees 90/1999 with add., 212/2006, OEL 127/2000	Greece
Titanium dioxide	13463-67-7	TWA: 10 mg/m ³	MB 14.3.2002 with addendum	Belgium
Titanium dioxide	13463-67-7	TWA: 10.0 mg/m ³	Regulation Nr. 13	Bulgaria
Titanium dioxide	13463-67-7	TWA: 10 mg/m ³ TWA: 4 mg/m ³	HR-OEL	Croatia
Titanium dioxide	13463-67-7	TWA: 5 mg/m ³	Reg. No 293	Estonia
Titanium dioxide	13463-67-7	TWA: 10 mg/m ³	Regulation No325 with add.	Latvia
Titanium dioxide	13463-67-7	IPRD: 5 mg/m ³	Order V-824/A1-389	Lithuania
Titanium dioxide	13463-67-7	STEL: 15 mg/m ³ TWA: 10 mg/m ³	Governmental Decision 1218 from 06/09/2006, 1093 from 16/08/2006	Romania
Titanium dioxide	13463-67-7	LLV: 5 mg/m ³	AFS 2005:17	Sweden

PNEC (Predicted No effect Concentration)

PNEC aqua – freshwater:

Boric acid, zinc salt : 20.6 mg/l
Tris(2-chloro-1-methylethyl) phosphate : 0.42 mg/l
Glycerol propoxylated : 0.2 mg/l
1,1'-methanediylbis(4-isocyanatobenzene) : 1 mg/l

PNEC aqua – marine water:

Boric acid, zinc salt : 6.1 mg/l
Tris(2-chloro-1-methylethyl) phosphate : 0.42 mg/l
Glycerol propoxylated : 0.02 mg/l
1,1'-methanediylbis(4-

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isocyanatobenzene)

PNEC aqua – intermittent releases:

No data available.

PNEC sediment (freshwater):

Boric acid, zinc salt : 117.8 mg/kg sediment dw

Tris(2-chloro-1-methylethyl) : 2.96 mg/kg sediment dw
phosphate

Glycerol propoxylated : 0.52 mg/kg sediment dw

PNEC sediment (marine water):

Boric acid, zinc salt : 56.5 mg/kg sediment dw

Tris(2-chloro-1-methylethyl) : 2.96 mg/kg sediment dw
phosphate

Glycerol propoxylated : 0.052 mg/kg sediment dw

PNEC soil:

Boric acid, zinc salt : 35.6 mg/kg soil dw

Tris(2-chloro-1-methylethyl) : 1.33 mg/kg soil dw
phosphate

Glycerol propoxylated : 0.067 mg/kg soil dw

1,1'-methanediylbis(4-
isocyanatobenzene) : 1 mg/kg soil dw

PNEC STP:

Boric acid, zinc salt : 100 mg/l

Glycerol propoxylated : 1 000 mg/l

1,1'-methanediylbis(4-
isocyanatobenzene) : 1 mg/l

DNEL (Derived No Effect Level)/DMEL (Derived Minimal Effect Level)

Worker:

Long-term exposure systemic effects, inhalation

Polyphosphoric acids, ammonium salts : 18.06 mg/m³

Boric acid, zinc salt : 22.4 mg/m³

Glycerol propoxylated : 98 mg/m³

Long-term exposure systemic effects, dermal

Boric acid, zinc salt : 1 585 mg/kg bw/day

Glycerol propoxylated : 13.9 mg/kg bw/day

Short-term exposure local effects, inhalation

1,1'-methanediylbis(4-isocyanatobenzene) : 0.1 mg/m³

Long-term exposure local effects, inhalation

1,1'-methanediylbis(4-isocyanatobenzene) : 0.05 mg/m³

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Long -term exposure systemic effects, oral

Tris(2-chloro-1-methylethyl) phosphate : 0.72 mg/kg bw/day

General population:

Long-term exposure systemic effects, inhalation

Polyphosphoric acids, ammonium salts : 4.45 mg/m³
Boric acid, zinc salt : 22.4 mg/m³
Tris(2-chloro-1-methylethyl) phosphate : 98 mg/m³

Long-term exposure systemic effects, dermal

Boric acid, zinc salt : 1 205 mg/kg bw/day
Glycerol propoxylated : 8.3 mg/kg bw/day

Short-term exposure local effects, inhalation

1,1'-methanediylbis(4-isocyanatobenzene) : 0.025 mg/m³

Long -term exposure local effects, inhalation

1,1'-methanediylbis(4-isocyanatobenzene) : 0.05 mg/m³

Long -term exposure systemic effects, oral

Polyphosphoric acids, ammonium salts : 1.28 mg/kg bw/day
Boric acid, zinc salt : 2.4 mg/kg bw/day
Glycerol propoxylated : 8.3 mg/kg bw/day

8.2 Exposure controls

Engineering measures

Provide sufficient air exchange and/or exhaust in work rooms. Highly effective exhaust ventilation.

Personal protective equipment

Respiratory protection : Filter respirator ABEK-P.
In an emergency: gas mask.

Hand protection : Protective gloves (rubber, polyethene).

Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer.

Eye protection : Protective goggles.

Remarks : Use equipment for eye protection tested and approved under appropriate government standards such as EN 166 (EU).

Skin and body protection : Protective clothes (cotton), rubber boots.

Remarks : Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : Handle in accordance with good industrial hygiene and safety

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practice.
General industrial hygiene practice.
Avoid breath vapours.
Avoid contact with skin, eyes and clothing.
When using do not eat, drink or smoke.
Wash hands before breaks and at the end of workday.
Follow the skin protection plan.
Wash contaminated clothing before re-use.

Environmental exposure controls

No data available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

	Component A	Component B	Compound (A+B)
Form	: Viscous liquid.	Viscous liquid.	Viscous liquid.
Colour	: Gray.	Gray.	Gray.
Odour	: No data available.	No data available.	No data available.
Odor threshold	: No data available.	No data available.	No data available.
Flash point	: No data available.	189 – 214 °C	No data available.
Lower explosion limit	: No data available.	No data available.	No data available.
Upper explosion limit	: No data available.	No data available.	No data available.
Explosive properties	: Non-explosive	Non-explosive	Non-explosive
Flammability	: Non-flammable.	No data available.	No data available.
Oxidizing properties	: Non-oxidizing	No data available.	No data available.
Auto-ignition temperature	: No data available.	No data available.	No data available.
pH	: No data available.	No data available.	No data available.
Melting point/range	: No data available.	37 – 41 °C	No data available.
Boiling point/boiling range	: No data available.	200 – 208 °C	No data available.
Vapor pressure	: No data available.	No data available.	No data available.
Density	: No data available.	1.22 – 1.25 kg/l	No data available.
Bulk density	: Not applicable.	Not applicable.	Not applicable.
Water solubility	: No data available.	No data available.	No data available.
Partition coefficient: n-octanol/water	: No data available.	No data available.	No data available.
Solubility in other solvents	: No data available.	No data available.	No data available.
Viscosity, dynamic	: No data available.	30 000 – 40 000 mPa·s	No data available.
Viscosity, kinematic	: No data available.	No data available.	No data available.
Relative vapor density	: No data available.	No data available.	No data available.
Evaporation rate	: No data available.	No data available.	No data available.
Decomposition temperature/range	: No data available.	No data available.	No data available.

9.2 Other information

No data available.

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SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Component A:

Non-reactive if stored and applied as directed.
May oxidized, hydrolyzed. May reacts with isocyanates.

Component B:

Non-reactive if stored and applied as directed.
May reacts with amines, acids. May polymerized, reduction.
In case of contact with water started reaction polymerization.
Stabilization is not required.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

No data available.

10.4 Conditions to avoid

Heat, moisture, low temperature, direct sunlight.

10.5 Incompatible materials

Materials to avoid : Acids, bases, oxidizing agents.

10.6 Hazardous decomposition products

Hazardous decomposition products : Build-up of dangerous/toxic fumes possible in cases of fire/high temperature: Carbon oxides, nitrogen oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity

Polyphosphoric acids, ammonium salts	: LD ₅₀ (rats): > 2 000 mg/kg
Tris(2-chloro-1-methylethyl) phosphate	: LD ₅₀ (rats): > 1 101 mg/kg
Titanium dioxide	: LD ₅₀ (rats): > 5 000 mg/kg
1,1'-methanediylbis(4-isocyanatobenzene)	: LD ₅₀ (rats): > 10 000 mg/kg
Boric acid, zinc salt	: LD ₅₀ (rats): > 2 000 mg/kg
Glycerol propoxylated	: LD ₅₀ (rats): > 2 000 mg/kg
Based (Component A)	: ATE _{mix} = 7 340 – 36 700 mg/kg
Compound (A+B)	: ATE _{mix} = 9 175 – 45 875 mg/kg

Acute inhalation toxicity

Polyphosphoric acids, ammonium salts	: LC ₅₀ (rats): > 4.85 mg/l Exposure time: 4h.
Tris(2-chloro-1-methylethyl) phosphate	: LC ₅₀ (rats): 5.09 mg/l Exposure time: 4h.
Titanium dioxide	: LC ₅₀ (rats): > 7.00 mg/l

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1,1'-methanediylbis(4-isocyanatobenzene)	: Exposure time: 4h. : LC ₅₀ (CLP): > 1.5 mg/l : Exposure time: 4h.
Boric acid, zinc salt	: LC ₅₀ (rats): > 4.95 mg/l : Exposure time: 4h.
Compound (A+B)	: ATE _{mix} = 5.017 – 6.326 mg/l

Acute dermal toxicity

1,1'-methanediylbis(4-isocyanatobenzene)	: LD ₅₀ (rats): > 10 000 mg/kg
Boric acid, zinc salt	: LD ₅₀ (rats): > 2 000 mg/kg
Glycerol propoxylated	: LD ₅₀ (rats): > 2 000 mg/kg
Tris(2-chloro-1-methylethyl) phosphate	: LD ₅₀ (rats): > 2 000 mg/kg

Skin corrosion / irritation

Skin irritation

Based (Component A)	: Non-Irritation.
Hardener (Component B)	: Irritation.
Compound (A+B)	: Irritation.

Serious eye damage / eye irritation

Eye irritation

Based (Component A)	: Irritation.
Hardener (Component B)	: Irritation.
Compound (A+B)	: Irritation.

Sensitization of the respiratory / skin

Skin sensitization

Based (Component A)	: Non-sensitizing.
Hardener (Component B)	: May cause sensitization of susceptible persons by skin contact.
Compound (A+B)	: May cause sensitization of susceptible persons by skin contact.

Respiratory sensitization

Based (Component A)	: Non-respiratory sensitizing.
Hardener (Component B)	: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Compound (A+B)	: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Mutagenicity

No mutagenic effect.

Carcinogenicity

Based (Component A)	: No carcinogenic effect.
Hardener (Component B)	: Suspected of causing cancer.
Compound (A+B)	: Suspected of causing cancer.

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Reproductive toxicity

Based (Component A) : Suspected of damaging the unborn child.
Hardener (Component B) : No reproductive effect.
Compound (A+B) : Suspected of damaging the unborn child.

NOAEL (rat): < 100 mg/kg bw/day
Boric acid, zinc salt : Route of application: oral
Exposure time: 79 days

Teratogenicity

No data available.

Specific target organ toxicity after single exposure

No data available.

Specific target organ toxicity after repeated exposure (sub-acute / sub-chronic)

Repeated dose toxicity: (sub-acute/ sub-chronic)

Titanium dioxide : NOAEL (sub-chronic; rat): > 962 mg/kg bw/day
Route of application: oral
Exposure time: 92 - 93 days
Glycerol propoxylated : NOAEL (sub-chronic; rat): ≥ 1 000 mg/kg bw/day
Route of application: oral
Exposure time: 31 days
1,1'-methanediylbis(4-isocyanatobenzene) : NOAEC (sub-chronic; rat): 0.2 mg/l
Route of application: inhalation
Exposure time: 6h/day, 5 d/week

Aspiration hazard

No data available.

Neurological effects

No data available.

Toxicology, metabolism, distribution

No data available.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish:

1,1'-methanediylbis(4-isocyanatobenzene) : LC₅₀ (freshwater fish): 2.54 mg/l
Exposure time: 96 h
Boric acid, zinc salt : LC₅₀ (Rainbow trout): 100 mg/l
Exposure time: 96 h
Polyphosphoric acids, ammonium salts : LC₅₀ (Pimephales promelas): 460 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:

1,1'-methanediylbis(4-isocyanatobenzene) : EC₅₀ (Daphnia magna): 2.55 mg/l
Exposure time: 48 h
Boric acid, zinc salt : EC₅₀ (Daphnia magna): 7.2 mg/l

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Polyphosphoric acids, ammonium salts : Exposure time: 48 h
: EC₅₀ (Daphnia magna): 230 mg/l
: Exposure time: 48 h

Toxicity to aquatic plants:

Glycerol propoxylated : EC₅₀ (Pseudokirchneriella subcapitata): 1.8 mg/l
: Exposure time: 72 h
Titanium dioxide : IC₅₀ (Pseudokirchneriella subcapitata): 770 mg/l
: Exposure time: 73 h

Long-term toxicity to fish/daphnia/aquatic plants

1,1'-methanediylbis(4-isocyanatobenzene) : NOEC (Daphnia magna): ≥ 10 mg/l
: Exposure time: 21 days
: NOEC (Daphnia magna): ≥ 10 mg/l
: Exposure time: 21 days
Glycerol propoxylated : NOEC (Desmodesmus subspicatus): ≥ 100 mg/l
: Exposure time: 25 days
Boric acid, zinc salt : NOEC (Oncorhynchus mykiss): 0.025 mg·Zn/l
: Exposure time: 14 days
Titanium dioxide : NOEC (Oncorhynchus mykiss): ≥ 1.1 mg/l

12.2 Persistence and degradability

Biodegradability : No data available.

12.3 Bioaccumulation potential

No data available.

12.4 Mobility in soil

No data available.

12.5 Results of PBT assessment and vPvB

Not PBT and no vPvB.

12.6 Other adverse effects

Additional ecological information : The product should not be allowed to enter drains, water courses or the soil.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Advice on disposal and packaging : Disposal:
In accordance with local and national regulations. Do not dispose of waste into sewer. This material and its container must be disposed of in a safe way. Do not dispose of together with household waste. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: TRANSPORT INFORMATION

Based (Component A)

ADR

UN-Number : 3082

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Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S. (*Boric acid, zinc salt*)

Class : 9
Packing group : III
Classification Code : M6
Hazard identification No : 90
Labels : 9
Limited quantity : 5 L
Tunnel restriction code : --
Environmentally hazardous : Yes

RID

UN-Number : 3082
Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S. (*Boric acid, zinc salt*)

Class : 9
Packing group : III
Classification Code : M6
Hazard identification No : 90
Labels : 9
Limited quantity : 5 L
Environmentally hazardous : Yes

IATA

UN-Number : 3082
Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S. (*Boric acid, zinc salt*)

Class : 9
Packing group : III
Labels : 9
Packing instruction (cargo aircraft) / Max Net Qty : 964 / 450 L
Packing instruction (passenger and cargo aircraft) / Max Net Qty : 964 / 450 L
Packing instruction (passenger and cargo aircraft) / Max Net Qty : Y964 / 30 kg G
Environmentally hazardous : Yes

IMDG

UN-Number : 3082
Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S. (*Boric acid, zinc salt*)

Class : 9
Packing group : III
EmSNumber 1 : F-A
EmS Number 2 : S-F
Marine pollutant : Yes

Hardener (Component B)

ADR : Not dangerous goods.

RID : Not dangerous goods.

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IATA : Not dangerous goods.

IMDG : Not dangerous goods.

Special precautions for the user

See Section 6, 7 and 8

SECTION 15: REGULATORY INFORMATION

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

Special labelling of certain mixtures : Not applicable.

Based (Component A)

Seveso Directive : (2012/18/EU)		Quantity 1	Quantity 2
E2 Hazardous to the Aquatic Environment in Category Chronic 2		200 t	500 t

National legislation

Other regulations : Take note of Dir 94/33/EC on the protection of young people at work.
Take note of Dir 92/85/EEC on the safety and health at work of pregnant workers.
Take note of Dir 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work.

15.2 CSA

The Chemical Safety Assessment was not undertaken. The product is a mixture.

SECTION 16: OTHER INFORMATION

Hazard statements:

- H302 : Harmful if swallowed.
- 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.
- H361d : Suspected of damaging the unborn child.
- H373 : May cause damage to organs (upper respiratory tracts, lungs) through prolonged or repeated exposure (inhalation).
- H400 : Very toxic to aquatic life.
- H410 : Very toxic to aquatic life with long lasting effects.

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Precautionary statements:

Prevention:

- P201 : Obtain special instructions before use.
- P202 : Do not handle until all safety precautions have been read and understood.
- P260 : Do not breathe mist or spray.
- P261 : Avoid breathing mist or spray.
- P264 : Wash hands thoroughly after handling.
- P270 : Do not eat, drink or smoke when using this product.
- P271 : Use only outdoors or in a well-ventilated area.
- P272 : Contaminated work clothing should not be allowed out of the workplace.
- P273 : Avoid release to the environment.
- P280 : Wear protective gloves, protective clothing, eye protection, face protection.
- P284 : [In case of inadequate ventilation] wear respiratory protection.

Response:

- P302+P352 : IF ON SKIN: Wash with plenty of water.
- P304+P340 : If INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+ : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact
P338 lenses, if present and easy to do. Continue rinsing.
- P308+P313 : IF exposed or concerned: Get medical advice or attention.
- P314 : Get medical advice or attention if you feel unwell.
- P312 : Call a POISON CENTER or doctor if you feel unwell.
- P321 : Specific treatment (see on this label).
- P332+P313 : If skin irritation occurs: Get medical advice and attention.
- P333+P313 : If skin irritation or rash occurs: Get medical advice and attention.
- P337+P313 : If eye irritation persists: Get medical advice or attention.
- P342+P311 : If experiencing respiratory symptoms: Call a POISON CENTER or doctor or
physician.
- P362+P364 : Take off contaminated clothing and wash before reuse.
- P391 : Collect spillage.

Storage:

- P403+P233 : Store in a well-ventilated place. Keep container tightly closed.
- P405 : Store locked up.

Disposal:

- P501 : Dispose of contents and container in accordance with national regulation.

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