

HFX

Safety information for 2-Component-products

Date of issue: 21/04/2016

Revision date: 21/04/2016

Supersedes: 23/11/2015

Version: 8.2

SECTION 1: Kit identification

1.1 Product identifier

Trade name HFX
 Product code BU Anchor



1.2 Details of the supplier of the Safety information for 2-Component-products

Hilti SMN doo
 11080 Zemun
 Belgrade - Serbien
 T +381 11 6556896 - F +381 11 6556891

SECTION 2: General information

Storage Storage temperature: 5 - 25 °C

A SDS for each of these components is included. Please do not separate any component SDS from this cover page

This Kit should be handled in accordance with good laboratory practices and appropriate personal protective equipment should be used

SECTION 3: Kit contents

Classification of the Product

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

Skin Irrit. 2 H315
 Eye Irrit. 2 H319
 Skin Sens. 1 H317
 Aquatic Acute 1 H400
 Aquatic Chronic 3 H412

Full text of hazard classes and H-statements : see section 16

Label elements

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

Hazard pictograms (CLP)



GHS07

GHS09

Signal word (CLP)

Warning

Hazardous ingredients

methacrylates, dibenzoyl peroxide

Hazard statements (CLP)

H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H319 - Causes serious eye irritation
 H400 - Very toxic to aquatic life
 H412 - Harmful to aquatic life with long lasting effects

HFX

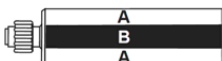
Kit Safety Information Sheet

Precautionary statements (CLP)

P262 - Do not get in eyes, on skin, or on clothing
 P280 - Wear eye protection, protective clothing, protective gloves
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P302+P352 - IF ON SKIN: Wash with plenty of soap and water
 P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
 P337+P313 - If eye irritation persists: Get medical advice/attention

Additional information

Plastic-cartridge, contains:
 Methacrylate resin, inorganic filler
 Dibenzoyl peroxide, phlegmatized



Name	General description	Quantity	Unit	Classification according to Regulation (EC) No. 1272/2008 [CLP]
HFX, A		1	pcs (pieces)	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 3, H412
HFX, B		1	pcs (pieces)	Skin Sens. 1, H317 Aquatic Acute 1, H400

SECTION 4: General information

General advice For professional users only

SECTION 5: Safe handling advice

Environmental precautions Prevent entry to sewers and public waters
 Notify authorities if liquid enters sewers or public waters

Storage conditions Keep cool. Protect from sunlight

Precautions for safe handling Wear personal protective equipment
 Avoid contact with skin and eyes
 Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work
 Provide good ventilation in process area to prevent formation of vapour

Methods for cleaning up This material and its container must be disposed of in a safe way, and as per local legislation
 Mechanically recover the product
 Store away from other materials

For containment Collect spillage

Incompatible materials Sources of ignition
 Direct sunlight

Incompatible products Strong bases
 Strong acids

SECTION 6: First aid measures

First-aid measures after eye contact Rinse immediately with plenty of water
 Remove contact lenses, if present and easy to do. Continue rinsing
 Obtain medical attention if pain, blinking or redness persist

First-aid measures after ingestion Rinse mouth
 Drink plenty of water
 Do NOT induce vomiting
 Get medical advice/attention

First-aid measures after inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Assure fresh air breathing
 Allow the victim to rest

HF_X

Kit Safety Information Sheet

First-aid measures after skin contact	Wash with plenty of soap and water Wash contaminated clothing before reuse If skin irritation or rash occurs: Get medical advice/attention
First-aid measures general	Remove/Take off immediately all contaminated clothing Never give anything by mouth to an unconscious person If you feel unwell, seek medical advice (show the label where possible)
Symptoms/injuries after eye contact	Causes serious eye irritation
Symptoms/injuries after skin contact	May cause an allergic skin reaction

SECTION 7: Fire fighting measures

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 enter fire area without proper protective equipment, including respiratory protection
Hazardous decomposition products in case of fire	Thermal decomposition generates : Carbon dioxide Carbon monoxide

SECTION 8: Other information

No data available

HFX, B

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 830/2015

Date of issue: 21/04/2016

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Version: 8.2

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

1.1. Product identifier

Product form	Mixture
Name	HFX, B
Product code	BU Anchor

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

1.2.1. Relevant identified uses

Industrial/Professional use spec	For professional use only
Use of the substance/mixture	Composite mortar component for fasteners in the construction industry

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier	Department issuing data specification sheet
Hilti SMN doo	Hilti Entwicklungsgesellschaft mbH
11080 Zemun	Hiltistrasse 6
Belgrade - Serbien	86916 Kaufering - Deutschland
T +381 11 6556896 - F +381 11 6556891	T +49 8191 906310 - F +49 8191 90176310
	anchor.hse@hilti.com

1.4. Emergency telephone number

Emergency number	Schweizerisches Toxikologisches Informationszentrum – 24h Service
	+41 44 251 51 51 (international)
	+381 11 6556896

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Skin Sens. 1 H317

Aquatic Acute 1 H400

Full text of hazard classes and H-statements : see section 16

2.2. Label elements

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

Hazard pictograms (CLP)



GHS07

GHS09

Signal word (CLP)

Warning

Hazardous ingredients

dibenzoyl peroxide

Hazard statements (CLP)

H317 - May cause an allergic skin reaction
H400 - Very toxic to aquatic life

Precautionary statements (CLP)

P280 - Wear eye protection, protective clothing, protective gloves
P262 - Do not get in eyes, on skin, or on clothing
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove

HFX, B

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 830/2015

contact lenses, if present and easy to do. Continue rinsing
 P302+P352 - IF ON SKIN: Wash with plenty of water
 P337+P313 - If eye irritation persists: Get medical advice/attention
 P333+P313 - If skin irritation or rash occurs: Get medical advice/attention

2.3. Other hazards

No additional information available

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]
dibenzoyl peroxide	(CAS No) 94-36-0 (EC no) 202-327-6 (EC index no) 617-008-00-0 (REACH-no) 01-2119511472-50	5 - 10	Org. Perox. B, H241 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Acute 1, H400 (M=10)

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	Remove/Take off immediately all contaminated clothing. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Assure fresh air breathing. Allow the victim to rest.
First-aid measures after skin contact	Wash contaminated clothing before reuse. Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persist.
First-aid measures after ingestion	Rinse mouth. Drink plenty of water. Get medical advice/attention. Do not induce vomiting. Obtain emergency medical attention.

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

Symptoms/injuries after skin contact	May cause an allergic skin reaction.
Symptoms/injuries after eye contact	May cause severe irritation.

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

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 830/2015

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire Thermal decomposition generates : Carbon dioxide. Carbon monoxide.

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 Self-contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment Use personal protective equipment as required. Equip cleanup crew with proper protection.

Emergency procedures Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment Collect spillage.

Methods for cleaning up This material and its container must be disposed of in a safe way, and as per local legislation. Mechanically recover the product. Store away from other materials.

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". For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling Wear personal protective equipment. Avoid contact with skin and eyes. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour.

Hygiene measures Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions Keep cool. Protect from sunlight.

Incompatible products Strong bases. Strong acids.

Incompatible materials Sources of ignition. Direct sunlight.

Storage temperature 5 - 25 °C

7.3. Specific end use(s)

No additional information available

HFX, B

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 830/2015

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional information The product has a pasty consistency. Exposure limit values for respirable dusts are not relevant for this product.

8.2. Exposure controls

Personal protective equipment Avoid all unnecessary exposure. Safety glasses. Gloves. Protective clothing.
 Hand protection Wear protective gloves. The permeation time is not the maximum wearing time! Generally speaking, it must be reduced. Contact with either mixtures of substances or different substances may shorten the protective function's effective duration.

Type	Material	Permeation	Thickness (mm)	Standard
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0,12	EN 374

Eye protection Chemical goggles or safety glasses

Type	Use	Characteristics	Standard
Safety glasses	Droplet	clear	EN 166, EN 170

Skin and body protection Wear suitable protective clothing



Environmental exposure controls Avoid release to the environment.
 Consumer exposure controls Avoid contact during pregnancy/while nursing.
 Other information Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Appearance	Thixotropic paste.
Colour	white.
Odour	characteristic.
Odour threshold	Not determined
pH	No data available
Relative evaporation rate (butylacetate=1)	No data available
Melting point	No data available
Freezing point	No data available
Boiling point	No data available
Flash point	No data available
Auto-ignition temperature	Not self-igniting
Decomposition temperature	No data available
Flammability (solid, gas)	Non flammable
Vapour pressure	No data available
Relative vapour density at 20 °C	No data available
Relative density	No data available
Density	1.7 g/cm ³ AW 4.3.23
Solubility	Water: Not miscible
Log Pow	No data available

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Viscosity, kinematic	No data available
Viscosity, dynamic	90 Pa.s HN-0333
Explosive properties	Product is not explosive.
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.

10.3. Possibility of hazardous reactions

No additional information available.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity Not classified

dibenzoyl peroxide (94-36-0)	
LD50 oral rat	> 5000 mg/kg bodyweight (Rat; Equivalent or similar to OECD 401; Weight of evidence)

Skin corrosion/irritation	Not classified Based on available data, the classification criteria are not met
Serious eye damage/irritation	Not classified Based on available data, the classification criteria are not met
Respiratory or skin sensitisation	May cause an allergic skin reaction.
Germ cell mutagenicity	Not classified Based on available data, the classification criteria are not met
Carcinogenicity	Not classified Based on available data, the classification criteria are not met
Reproductive toxicity	Not classified Based on available data, the classification criteria are not met
Specific target organ toxicity (single exposure)	Not classified Based on available data, the classification criteria are not met
Specific target organ toxicity (repeated exposure)	Not classified Based on available data, the classification criteria are not met

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Aspiration hazard Not classified
Based on available data, the classification criteria are not met

HFX, B	
Viscosity, kinematic	52941.17647059 mm ² /s

Potential adverse human health effects and symptoms Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

dibenzoyl peroxide (94-36-0)	
LC50 fish 1	2 mg/l (96 h; Poecilia reticulata)
EC50 Daphnia 1	0.07 mg/l
LC50 fish 2	0.0602 mg/l (96h; Oncorhynchus mykiss; ECHA)
NOEC (acute)	0.0316 mg/l (96h; Oncorhynchus mykiss; ECHA)

12.2. Persistence and degradability

HFX, B	
Persistence and degradability	Not established.
dibenzoyl peroxide (94-36-0)	
Persistence and degradability	Readily biodegradable in water. No (test)data on mobility of the substance available.

12.3. Bioaccumulative potential

HFX, B	
Bioaccumulative potential	Not established.
dibenzoyl peroxide (94-36-0)	
Log Pow	3.71 (QSAR; 3.2; Experimental value; OECD 117: Partition Coefficient (n-octanol/water), HPLC method; 22 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Additional information Avoid release to the environment

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	Disposal must be done according to official regulations.
Waste disposal recommendations	Refer to manufacturer/supplier for information on recovery/recycling. Dispose of contents/container to Avoid release to the environment, Refer to manufacturer/supplier for information on recovery/recycling.
Ecology - waste materials	Avoid release to the environment.
European List of Waste (LoW) code	08 04 09* - waste adhesives and sealants containing organic solvents or other dangerous substances 20 01 27* - paint, inks, adhesives and resins containing dangerous substances

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SECTION 14: Transport information

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

Other information not restricted according ADR Special Provision SP375, IATA-DGR Special Provision A197 and IMDG-Code 2.10.2.7

ADR	IMDG	IATA	RID
14.1. UN number			
Not regulated for transport			
14.2. UN proper shipping name			
Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)			
Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards			
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes
ADR 5.2.1.8.1 derogation applies (quantity of liquids ≤ 5 litres or net mass of solids ≤ 5 kg)			
not restricted according ADR Special Provision SP375, IATA-DGR Special Provision A197 and IMDG-Code 2.10.2.7			

14.6. Special precautions for user

- Overland transport

Special provisions (ADR) 375

- Transport by sea

No data available

- Air transport

Special provisions (IATA) A197

- Rail transport

Carriage prohibited (RID) No

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

HFX, B

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 830/2015

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

Other information None.

Full text of H- and EUH-statements:

Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Org. Perox. B	Organic Peroxides, Type B
Skin Sens. 1	Sensitisation — Skin, Category 1
H241	Heating may cause a fire or explosion
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H400	Very toxic to aquatic life

SDS_EU_Hilti

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

HFX, A

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 830/2015

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

1.1. Product identifier

Product form	Mixture
Name	HFX, A
Product code	BU Anchor

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

1.2.1. Relevant identified uses

Industrial/Professional use spec	For professional use only
Use of the substance/mixture	Composite mortar component for fasteners in the construction industry

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier	Department issuing data specification sheet
Hilti SMN doo	Hilti Entwicklungsgesellschaft mbH
11080 Zemun	Hiltistrasse 6
Belgrade - Serbien	86916 Kaufering - Deutschland
T +381 11 6556896 - F +381 11 6556891	T +49 8191 906310 - F +49 8191 90176310
	anchor.hse@hilti.com

1.4. Emergency telephone number

Emergency number	Schweizerisches Toxikologisches Informationszentrum – 24h Service
	+41 44 251 51 51 (international)
	+381 11 6556896

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Skin Irrit. 2	H315
Eye Irrit. 2	H319
Skin Sens. 1	H317
Aquatic Chronic 3	H412

Full text of hazard classes and H-statements : see section 16

2.2. Label elements

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

Hazard pictograms (CLP)



GHS07

Signal word (CLP)	Warning
Hazardous ingredients	2-Hydroxypropyl methacrylate
Hazard statements (CLP)	H315 - Causes skin irritation
	H317 - May cause an allergic skin reaction
	H319 - Causes serious eye irritation

HFx, A

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 830/2015

Precautionary statements (CLP)

H412 - Harmful to aquatic life with long lasting effects
 P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
 P264 - Wash hands, forearms and face thoroughly after handling
 P272 - Contaminated work clothing should not be allowed out of the workplace
 P273 - Avoid release to the environment
 P280 - Wear eye protection, protective clothing, protective gloves
 P302+P352 - IF ON SKIN: Wash with plenty of water

2.3. Other hazards

No additional information available

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]
2-Hydroxypropyl methacrylate	(CAS No) 27813-02-1 (EC no) 248-666-3 (EC index no) 607-125-00-5 (REACH-no) 01-2119490226-37	10 - 25	Eye Irrit. 2, H319 Skin Sens. 1, H317
Bisphenol-A-diethoxy-methacrylate	(CAS No) 24448-20-2 (EC no) 246-263-7	5 - 10	Skin Irrit. 2, H315 Eye Irrit. 2, H319
Tricyclodecane dimethanol dimethacrylate	(CAS No) 43048-08-4 (EC no) 256-062-6	2.5 - 5	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
1,1,1-Trimethylolpropane trimethacrylate	(CAS No) 3290-92-4 (EC no) 221-950-4 (REACH-no) 01-2119542176-41	2.5 - 5	Aquatic Chronic 2, H411
1,1'-(p-tolylimino)dipropan-2-ol	(CAS No) 38668-48-3 (EC no) 254-075-1 (REACH-no) 01-2119980937-17	0.1 - 1	Acute Tox. 2 (Oral), H300 Eye Irrit. 2, H319 Aquatic Chronic 3, H412
boric acid substance listed as REACH Candidate	(CAS No) 10043-35-3 (EC no) 233-139-2 (EC index no) 005-007-00-2	0.1 - 1	Repr. 1B, H360FD
4-tert-butylpyrocatechol	(CAS No) 98-29-3 (EC no) 202-653-9	0.1 - 1	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 2, H411

Specific concentration limits:

Name	Product identifier	Specific concentration limits
boric acid	(CAS No) 10043-35-3 (EC no) 233-139-2 (EC index no) 005-007-00-2	(C >= 5.5) Repr. 1B, H360FD

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general Remove/Take off immediately all contaminated clothing. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Assure fresh air breathing. Allow the victim to rest.

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 830/2015

First-aid measures after skin contact	Wash contaminated clothing before reuse. Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persist.
First-aid measures after ingestion	Rinse mouth. Drink plenty of water. Get medical advice/attention. Do not induce vomiting. Obtain emergency medical attention.

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

Symptoms/injuries after skin contact	May cause an allergic skin reaction.
Symptoms/injuries after eye contact	May cause severe irritation.

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

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	Thermal decomposition generates : Carbon dioxide. Carbon monoxide.
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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	Self-contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	Evacuate unnecessary personnel.
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6.1.2. For emergency responders

Protective equipment	Use personal protective equipment as required. Equip cleanup crew with proper protection.
Emergency procedures	Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment	Collect spillage.
Methods for cleaning up	This material and its container must be disposed of in a safe way, and as per local legislation. Mechanically recover the product. Store away from other materials.
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". For further information refer to section 13.

HFX, A

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 830/2015

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling Wear personal protective equipment. Avoid contact with skin and eyes. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour.

Hygiene measures Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions Keep cool. Protect from sunlight.

Incompatible products Strong bases. Strong acids.

Incompatible materials Sources of ignition. Direct sunlight.

Storage temperature 5 - 25 °C

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional information The product has a pasty consistency. Exposure limit values for respirable dusts are not relevant for this product.

8.2. Exposure controls

Personal protective equipment Avoid all unnecessary exposure. Safety glasses. Gloves. Protective clothing.

Hand protection Wear protective gloves. The permeation time is not the maximum wearing time! Generally speaking, it must be reduced. Contact with either mixtures of substances or different substances may shorten the protective function's effective duration.

Type	Material	Permeation	Thickness (mm)	Standard
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0,12	EN 374

Eye protection Chemical goggles or safety glasses

Type	Use	Characteristics	Standard
Safety glasses	Droplet	clear	EN 166, EN 170

Skin and body protection Wear suitable protective clothing



Environmental exposure controls Avoid release to the environment.

Consumer exposure controls Avoid contact during pregnancy/while nursing.

Other information Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state Solid

Appearance Thixotropic paste.

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 830/2015

Colour	light brown.
Odour	characteristic.
Odour threshold	Not determined
pH	No data available
Relative evaporation rate (butylacetate=1)	No data available
Melting point	No data available
Freezing point	No data available
Boiling point	No data available
Flash point	101 °C DIN 53213
Auto-ignition temperature	Not self-igniting
Decomposition temperature	No data available
Flammability (solid, gas)	Non flammable
Vapour pressure	No data available
Relative vapour density at 20 °C	No data available
Relative density	No data available
Density	1.66 g/ml DIN 51757
Solubility	Water: Not miscible
Log Pow	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	80 Pa.s HN-0333
Explosive properties	Product is not explosive.
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.

10.3. Possibility of hazardous reactions

No additional information available.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity Not classified

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 830/2015

1,1'-(p-tolylimino)dipropan-2-ol (38668-48-3)	
LD50 oral rat	25 mg/kg
LD50 dermal rat	> 2000 mg/kg
4-tert-butylpyrocatechol (98-29-3)	
LD50 oral rat	815 mg/kg bodyweight (Rat; Lethal; ECHA)
LD50 dermal rat	1331 mg/kg bodyweight (Rat;Lethal; ECHA)
LD50 dermal rabbit	(Rabbit)
2-Hydroxypropyl methacrylate (27813-02-1)	
LD50 oral rat	> 5000 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Literature study; >=2000 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rabbit	>= 5000 mg/kg bodyweight (Rabbit; Experimental value)
1,1,1-Trimethylolpropane trimethacrylate (3290-92-4)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 3000 mg/kg
boric acid (10043-35-3)	
LD50 oral rat	2660 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Literature study; >2600 mg/kg bodyweight; Rat; Experimental value)
LD50 oral	3241 mg/kg
LD50 dermal rabbit	> 2000 mg/kg Rabbit; Experimental value; FIFRA (40 CFR)

Skin corrosion/irritation	Causes skin irritation. Based on available data, the classification criteria are not met
Serious eye damage/irritation	Causes serious eye irritation. Based on available data, the classification criteria are not met
Respiratory or skin sensitisation	May cause an allergic skin reaction.
Germ cell mutagenicity	Not classified Based on available data, the classification criteria are not met
Carcinogenicity	Not classified Based on available data, the classification criteria are not met
Reproductive toxicity	Not classified Based on available data, the classification criteria are not met
Specific target organ toxicity (single exposure)	Not classified Based on available data, the classification criteria are not met
Specific target organ toxicity (repeated exposure)	Not classified Based on available data, the classification criteria are not met
Aspiration hazard	Not classified Based on available data, the classification criteria are not met

HFX, A	
Viscosity, kinematic	48192.77108434 mm ² /s

Potential adverse human health effects and symptoms Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

1,1'-(p-tolylimino)dipropan-2-ol (38668-48-3)	
LC50 fish 1	≈ 17 mg/l
LC50 other aquatic organisms 1	245 mg/l
EC50 Daphnia 1	28.8 mg/l
NOEC (acute)	57.8 mg/l
4-tert-butylpyrocatechol (98-29-3)	
LC50 fish 1	0.12 mg/l (96 h, Danio rerio, Lethal, ECHA)
EC50 Daphnia 1	> µg/l
2-Hydroxypropyl methacrylate (27813-02-1)	
LC50 fish 1	493 mg/l (48 h; Leuciscus idus; GLP)
EC50 Daphnia 1	> 143 mg/l (48 h; Daphnia magna; GLP)
Threshold limit algae 1	> 97.2 mg/l (72 h; Pseudokirchneriella subcapitata; GLP)
Threshold limit algae 2	> 97.2 mg/l (72 h; Pseudokirchneriella subcapitata; GLP)

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1,1,1-Trimethylolpropane trimethacrylate (3290-92-4)	
LC50 fish 1	2 mg/l
ErC50 (algae)	3.88 mg/l
NOEC chronic fish	0.138 mg/l
NOEC chronic crustacea	0.177 mg/l

boric acid (10043-35-3)	
LC50 fish 1	447 mg/l
EC50 Daphnia 1	658 - 875 mg/l (48 h; Daphnia magna)
LC50 fish 2	79 ppm (96 h; Salmo gairdneri (Oncorhynchus mykiss); Hard water)
EC50 Daphnia 2	19.7 mg/l (336 h; Daphnia magna)
TLM fish 1	1800 ppm (24 h; Gambusia affinis)
Threshold limit algae 1	5 mg/l (672 h; Elodea sp.)
Threshold limit algae 2	0.4 - 0.8,336 h; Chlorella sp.; Growth

12.2. Persistence and degradability

HFX, A	
Persistence and degradability	Not established.

4-tert-butylpyrocatechol (98-29-3)	
ThOD	2.4 g O ₂ /g substance

2-Hydroxypropyl methacrylate (27813-02-1)	
Persistence and degradability	Readily biodegradable in water. No (test)data on mobility of the substance available.

boric acid (10043-35-3)	
Persistence and degradability	Biodegradability: not applicable. Biodegradability in soil: not applicable. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

HFX, A	
Bioaccumulative potential	Not established.

1,1'-(p-tolylimino)dipropan-2-ol (38668-48-3)	
BCF fish 1	≈
Log Kow	2.1

4-tert-butylpyrocatechol (98-29-3)	
Log Pow	2.94 (Estimated value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

2-Hydroxypropyl methacrylate (27813-02-1)	
BCF fish 1	<= 100 (Pisces)
BCF fish 2	3.2 (Pisces; QSAR)
Log Pow	0.97 (OECD 102: Melting Point/Melting Range)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

1,1,1-Trimethylolpropane trimethacrylate (3290-92-4)	
BCF fish 2	366 l/kg
Log Pow	3.53
Log Kow	4.39

boric acid (10043-35-3)	
BCF fish 1	0 (Salmo gairdneri (Oncorhynchus mykiss); Chronic)
BCF fish 2	< 0.1 (60 days; Oncorhynchus tshawytscha; Fresh weight)
Log Pow	-1.09 (Experimental value; EU Method A.8: Partition Coefficient; 22 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

boric acid (10043-35-3)	
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

12.5. Results of PBT and vPvB assessment

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 830/2015

Component	
boric acid (10043-35-3)	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

Regional legislation (waste): Disposal must be done according to official regulations.
 Waste disposal recommendations: Refer to manufacturer/supplier for information on recovery/recycling. Dispose of contents/container to Avoid release to the environment, Refer to manufacturer/supplier for information on recovery/recycling.
 Ecology - waste materials: Avoid release to the environment.
 European List of Waste (LoW) code: 08 04 09* - waste adhesives and sealants containing organic solvents or other dangerous substances
 20 01 27* - paint, inks, adhesives and resins containing dangerous substances

SECTION 14: Transport information

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

Other information: not restricted according ADR Special Provision SP375, IATA-DGR Special Provision A197 and IMDG-Code 2.10.2.7

ADR	IMDG	IATA	RID
14.1. UN number			
Not regulated for transport			
14.2. UN proper shipping name			
Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)			
Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable
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
not restricted according ADR Special Provision SP375, IATA-DGR Special Provision A197 and IMDG-Code 2.10.2.7			

14.6. Special precautions for user

- Overland transport

Special provisions (ADR): 375

- Transport by sea

No data available

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 830/2015

- Air transport

Special provisions (IATA) A197

- Rail transport

Carriage prohibited (RID) No

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 a substance on the REACH candidate list in concentration $\geq 0.1\%$ or with a lower specific limit: Boric acid (EC 233-139-2, CAS 10043-35-3)

Contains no REACH Annex XIV substances

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

Other information None.

Full text of H- and EUH-statements:

Acute Tox. 2 (Oral)	Acute toxicity (oral), Category 2
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute 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
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Repr. 1B	Reproductive toxicity, Category 1B
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Sensitisation — Skin, Category 1
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H300	Fatal if swallowed
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
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H360FD	May damage fertility. May damage the unborn child
H400	Very toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 830/2015

H412	Harmful to aquatic life with long lasting effects
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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