

Hilti Crack Injection System CI 060

Safety information for 2-Component-products

Date of issue: 09/08/2016

Revision date: 09/08/2016

Supersedes: 09/08/2016

Version: 8.0

SECTION 1: Kit identification

1.1 Product identifier

Name Hilti Crack Injection System CI 060
 Product code BU Chemicals

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

Hilti (Fastening Systems) Limited
 Unit C4
 11 Dublin - Irland
 T +353 188 64101
 1850-287 387 Call Save - F +353 183 03569
iesales@hilti.com

SECTION 2: General information

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

SECTION 3: Kit contents

Classification of the Product

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

Acute Tox. 4 (Oral) H302
 Acute Tox. 4 (Dermal) H312
 Skin Corr. 1 H314
 Skin Sens. 1 H317
 Muta. 2 H341
 Aquatic Acute 1 H400
 Aquatic Chronic 1 H410

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)



GHS05

GHS07

GHS08

GHS09

Signal word (CLP)

Danger

Hazard statements (CLP)

H302+H312 - Harmful if swallowed or in contact with skin
 H314 - Causes severe skin burns and eye damage
 H317 - May cause an allergic skin reaction
 H341 - Suspected of causing genetic defects
 H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (CLP)

P260 - Do not breathe vapours
 P273 - Avoid release to the environment

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P280 - Wear eye protection, protective clothing, protective gloves
 P302+P352 - IF ON SKIN: Wash with plenty of soap and water
 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/attention

Additional information

Name	General description	Quantity	Unit	Classification according to Regulation (EC) No. 1272/2008 [CLP]
CI 060, B		1	pcs (pieces)	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
CI 060, A		1	pcs (pieces)	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Muta. 2, H341 Aquatic Chronic 2, H411

SECTION 4: General information

No data available

SECTION 5: Safe handling advice

Environmental precautions	Avoid release to the environment
Storage conditions	Store locked up Store in a well-ventilated place Keep cool
Precautions for safe handling	Ensure good ventilation of the work station Obtain special instructions before use Do not handle until all safety precautions have been read and understood Do not get in eyes, on skin, or on clothing Wear personal protective equipment Avoid breathing vapours
Methods for cleaning up	Notify authorities if product enters sewers or public waters
For containment	Collect spillage

SECTION 6: First aid measures

First-aid measures after eye contact	Rinse eyes with water as a precaution
First-aid measures after ingestion	Rinse mouth Call a poison center or a doctor if you feel unwell
First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing
First-aid measures after skin contact	Wash skin with plenty of water Take off contaminated clothing If skin irritation or rash occurs: Get medical advice/attention
First-aid measures general	IF exposed or concerned: Get medical advice/attention Call a poison center or a doctor if you feel unwell
Symptoms/injuries after skin contact	May cause an allergic skin reaction
Other medical advice or treatment	Treat symptomatically

SECTION 7: Fire fighting measures

Protection during firefighting	Do not attempt to take action without suitable protective equipment Self-contained breathing apparatus Complete protective clothing
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Hazardous decomposition products in case of fire

Toxic fumes may be released

SECTION 8: Other information

No data available

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Safety Data Sheet

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

Date of issue: 09/08/2016

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Supersedes: 09/08/2016

Version: 8.0

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

1.1. Product identifier

Product form	Mixture
Name	CI 060, A
Product code	BU Chemicals

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

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Hilti (Fastening Systems) Limited
Unit C4
11 Dublin - Ireland
T +353 188 64101
1850-287 387 Call Save - F +353 183 03569
iesales@hilti.com

Supplier

Hilti (Fastening Systems) Limited
Unit C4
11 Dublin - Ireland
T +353 188 64101
1850-287 387 Call Save - F +353 183 03569
iesales@hilti.com

Department issuing data specification sheet

Hilti AG
Feldkircherstraße 100
9494 Schaan - Liechtenstein
T +423 234 2111 - F +423 234 2965
www.hilti.com

1.4. Emergency telephone number

Emergency number Schweizerisches Toxikologisches Informationszentrum – 24h Service
+41 44 251 51 51 (international)
+353 188 64101
1850-287 387 Call Save

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
Muta. 2 H341
Aquatic Chronic 2 H411

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

CI 060, A

Safety Data Sheet

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

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

Hazard pictograms (CLP)



Signal word (CLP)

Warning

Hazardous ingredients

Bisphenol-A-Epichlorhydrin Epoxy resin Average MW < 700 ; 2,3-epoxypropyl o-tolyl ether

Hazard statements (CLP)

H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H319 - Causes serious eye irritation
 H341 - Suspected of causing genetic defects
 H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (CLP)

P273 - Avoid release to the environment
 P280 - Wear eye protection, protective gloves, protective clothing
 P302+P352 - IF ON SKIN: Wash with plenty of soap and water
 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/attention
 P333+P313 - If skin irritation or rash occurs: Get medical advice/attention

2.3. Other hazards

Adverse physicochemical, human health and environmental effects

Suspected of causing genetic defects. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. Toxic to aquatic life with long lasting effects.

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]
Bisphenol-A-Epichlorhydrin Epoxy resin Average MW < 700	(CAS No) 25068-38-6 (EC no) 500-033-5 (EC index no) 603-074-00-8 (REACH-no) 01-2119456619-26	60 - 80	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411
2,3-epoxypropyl o-tolyl ether	(CAS No) 2210-79-9 (EC no) 218-645-3 (EC index no) 603-056-00-X (REACH-no) 01-2119966907-18	25 - 40	Muta. 2, H341 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411

Specific concentration limits:

Name	Product identifier	Specific concentration limits
Bisphenol-A-Epichlorhydrin Epoxy resin Average MW < 700	(CAS No) 25068-38-6 (EC no) 500-033-5 (EC index no) 603-074-00-8 (REACH-no) 01-2119456619-26	(C >= 5) Eye Irrit. 2, H319 (C >= 5) Skin Irrit. 2, H315

Full text of H-statements: see section 16

CI 060, A

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.
First-aid measures after skin contact	Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

Symptoms/injuries after skin contact	Burns. May cause an allergic skin reaction.
Symptoms/injuries after eye contact	Serious damage to eyes.
Symptoms/injuries 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	Dry powder. Foam. Carbon dioxide.
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5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	Toxic fumes may be released.
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5.3. Advice for firefighters

Protection during firefighting	Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
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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.
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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".
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6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

For containment	Collect spillage.
Methods for cleaning up	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 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling

Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact with skin and eyes. Do not breathe vapours. Wear personal protective equipment.

Hygiene measures

Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. 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

Store locked up. Store in a well-ventilated place. Keep cool.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls

Ensure good ventilation of the work station.

Hand protection

Type	Material	Permeation	Thickness (mm)	Standard
Reusable gloves	Butyl rubber, Fluoroelastomer (FKM) , Polyvinylalcohol (PVA)	3 (> 60 minutes)		EN 374

Eye protection

Type	Use	Characteristics	Standard
Safety glasses			EN 166, EN 170

Skin and body protection

Wear suitable protective clothing

Respiratory protection

Wear respiratory protection



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	mild.
Odour threshold	No data available
pH	No data available
Relative evaporation rate (butylacetate=1)	No data available
Melting point	Not applicable

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Freezing point	No data available
Boiling point	No data available
Flash point	138 °C
Auto-ignition temperature	No data available
Decomposition temperature	> 200 °C
Flammability (solid, gas)	Not applicable
Vapour pressure	0.0075 mm Hg
Relative vapour density at 20 °C	No data available
Relative density	No data available
Density	1.15 kg/l
Solubility	No data available
Log Pow	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	500 - 650 mPa.s
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

Heat.

10.5. Incompatible materials

Strong acids. Strong bases. Oxidizing agent.

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity Not classified

Bisphenol-A-Epichlorhydrin Epoxy resin Average MW < 700 (25068-38-6)	
LD50 oral rat	> 2000 mg/kg (Rat; OECD 420: Acute Oral toxicity – Acute Toxic Class Method; Experimental value)
LD50 dermal rat	> 2000 mg/kg (Rat; Experimental value; OECD 402: Acute Dermal Toxicity)
2,3-epoxypropyl o-tolyl ether (2210-79-9)	
LD50 oral rat	> 5000 mg/kg (Rat)
LD50 dermal rat	> 2000 mg/kg (Rat)
LC50 inhalation rat (mg/l)	6.09 mg/l/4h (Rat)

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Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/irritation	Causes serious eye irritation.
Respiratory or skin sensitisation	May cause an allergic skin reaction.
Germ cell mutagenicity	Suspected of causing genetic defects.
Reproductive toxicity	Not classified
Specific target organ toxicity (single exposure)	Not classified
Specific target organ toxicity (repeated exposure)	Not classified
Aspiration hazard	Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general Toxic to aquatic life with long lasting effects.

Bisphenol-A-Epichlorhydrin Epoxy resin Average MW < 700 (25068-38-6)	
LC50 fish 1	1.2 mg/l (96 h; Oncorhynchus mykiss; Lethal)
EC50 Daphnia 1	1.1 - 2.8 mg/l (48 h; Daphnia magna; Locomotor effect)
LC50 fish 2	2.3 mg/l (96 h; Oncorhynchus mykiss; Nominal concentration)
Threshold limit algae 1	> 11 mg/l (72 h; Scenedesmus sp.)
Threshold limit algae 2	4.2 mg/l (72 h; Scenedesmus sp.)
2,3-epoxypropyl o-tolyl ether (2210-79-9)	
LC50 fish 1	1 - 10 mg/l (Pisces)
EC50 Daphnia 1	1 - 10 mg/l (Invertebrata)

12.2. Persistence and degradability

Bisphenol-A-Epichlorhydrin Epoxy resin Average MW < 700 (25068-38-6)	
Persistence and degradability	Not readily biodegradable in water. Hydrolysis in water. Low potential for adsorption in soil.
2,3-epoxypropyl o-tolyl ether (2210-79-9)	
Persistence and degradability	Not readily biodegradable in water. Biodegradability in soil: no data available. Photodegradation in the air.

12.3. Bioaccumulative potential

Bisphenol-A-Epichlorhydrin Epoxy resin Average MW < 700 (25068-38-6)	
BCF other aquatic organisms 1	3 - 31
Log Pow	>= 2.918 (Experimental value; EU Method A.8: Partition Coefficient; 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
2,3-epoxypropyl o-tolyl ether (2210-79-9)	
Log Pow	2.16 (Estimated value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

Bisphenol-A-Epichlorhydrin Epoxy resin Average MW < 700 (25068-38-6)	
Surface tension	0.0 587-0.0589, 20 °C

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods Dispose of contents/container in accordance with licensed collector's sorting instructions.

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

SECTION 14: Transport information

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

Other information: No supplementary information available

14.1. UN number

UN-No. (ADR)	3082
UN-No. (IMDG)	3082
UN-No. (IATA)	3082
UN-No. (ADN)	3082
UN-No. (RID)	3082

14.2. UN proper shipping name

Proper Shipping Name (ADR)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Proper Shipping Name (IMDG)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Proper Shipping Name (IATA)	Environmentally hazardous substance, liquid, n.o.s.
Proper Shipping Name (ADN)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Proper Shipping Name (RID)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Transport document description (ADR)	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III, (E)
Transport document description (IMDG)	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	9
Danger labels (ADR)	9



IMDG

Transport hazard class(es) (IMDG)	9
Danger labels (IMDG)	9



IATA

Transport hazard class(es) (IATA)	9
Hazard labels (IATA)	9



ADN

Transport hazard class(es) (ADN)	9
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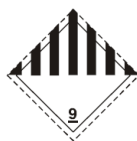
Danger labels (ADN) 9



RID

Transport hazard class(es) (RID) 9

Danger labels (RID) 9



14.4. Packing group


Packing group (ADR)	III
Packing group (IMDG)	III
Packing group (IATA)	III
Packing group (ADN)	III
Packing group (RID)	III

14.5. Environmental hazards

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))
Marine pollutant	Yes (ADR 5.2.1.8.1 derogation applies (quantity of liquids ≤ 5 litres or net mass of solids ≤ 5 kg))
Other information	No supplementary information available

14.6. Special precautions for user

- Overland transport

Classification code (ADR)	M6
Special provisions (ADR)	274, 335, 601
Limited quantities (ADR)	5I
Packing instructions (ADR)	P001, IBC03, LP01, R001
Mixed packing provisions (ADR)	MP19
Orange plates	

Tunnel restriction code (ADR) E

- Transport by sea

Special provisions (IMDG)	274, 335, 969
Limited quantities (IMDG)	5 L
Packing instructions (IMDG)	P001, LP01
EmS-No. (Fire)	F-A
EmS-No. (Spillage)	S-F
Stowage category (IMDG)	A
MFAG-No	171

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- Air transport

PCA packing instructions (IATA)	964
PCA max net quantity (IATA)	450L
Special provisions (IATA)	A97, A158, A197

- Inland waterway transport

Classification code (ADN)	M6
Special provisions (ADN)	274, 335, 61
Limited quantities (ADN)	5 L
Excepted quantities (ADN)	E1
Carriage permitted (ADN)	T
Equipment required (ADN)	PP
Number of blue cones/lights (ADN)	0
Carriage prohibited (ADN)	No
Not subject to ADN	No

- Rail transport

Special provisions (RID)	274, 335, 601
Limited quantities (RID)	5L
Packing instructions (RID)	P001, IBC03, LP01, R001
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

15.1.2. National regulations

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Full text of H- and EUH-statements:

Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Muta. 2	Germ cell mutagenicity, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Sensitisation — Skin, Category 1
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H341	Suspected of causing genetic defects
H411	Toxic to aquatic life with long lasting effects

CI 060, A

Safety Data Sheet

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

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

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

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

1.1. Product identifier

Product form	Mixture
Name	CI 060, B
Product code	BU Chemicals

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
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1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Hilti (Fastening Systems) Limited
 Unit C4
 11 Dublin - Irland
 T +353 188 64101
 1850-287 387 Call Save - F +353 183 03569
iesales@hilti.com

Supplier

Hilti (Fastening Systems) Limited
 Unit C4
 11 Dublin - Irland
 T +353 188 64101
 1850-287 387 Call Save - F +353 183 03569
iesales@hilti.com

Department issuing data specification sheet

Hilti AG
 Feldkircherstraße 100
 9494 Schaan - Liechtenstein
 T +423 234 2111
chemicals.hse@hilti.com

1.4. Emergency telephone number

Emergency number	Schweizerisches Toxikologisches Informationszentrum – 24h Service +41 44 251 51 51 (international) +353 188 64101 1850-287 387 Call Save
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Acute Tox. 4 (Oral)	H302
Acute Tox. 4 (Dermal)	H312
Skin Corr. 1B	H314
Eye Dam. 1	H318
Skin Sens. 1	H317
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

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

CI 060, B

Safety Data Sheet

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

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

Hazard pictograms (CLP)



Signal word (CLP)

Danger

Hazardous ingredients

pentaethylenehexamine; Benzyl alcohol

Hazard statements (CLP)

H302+H312 - Harmful if swallowed or in contact with skin
 H314 - Causes severe skin burns and eye damage
 H317 - May cause an allergic skin reaction
 H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (CLP)

P260 - Do not breathe vapours
 P273 - Avoid release to the environment
 P280 - Wear eye protection, protective clothing, protective gloves
 P301+P312 - IF SWALLOWED: call a POISON CENTER or doctor/physician if you feel unwell
 P302+P352 - IF ON SKIN: Wash with plenty of soap and water
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

2.3. Other hazards

Adverse physicochemical, human health and environmental effects

Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. Very toxic to aquatic life with long lasting effects.

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]
pentaethylenehexamine	(CAS No) 4067-16-7 (EC no) 223-775-9 (EC index no) 612-064-00-2 (REACH-no) 01-2119485826-22	60 - 80	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Benzyl alcohol	(CAS No) 100-51-6 (EC no) 202-859-9 (EC index no) 603-057-00-5 (REACH-no) 01-2119492630-38	10 - 25	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2, H319

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.
First-aid measures after skin contact	Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

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First-aid measures after ingestion Rinse mouth. Call a physician immediately.

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

Symptoms/injuries after skin contact	Burns. May cause an allergic skin reaction.
Symptoms/injuries after eye contact	Serious damage to eyes.
Symptoms/injuries 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.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	Toxic fumes may be released.
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5.3. Advice for firefighters

Protection during firefighting	Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
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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.
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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".
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6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	Collect spillage.
Methods for cleaning up	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 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. Wear personal protective equipment.
Hygiene measures	Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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Relative vapour density at 20 °C	No data available
Relative density	No data available
Density	1.05 kg/l
Solubility	No data available
Log Pow	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	110 - 120 Pa.s
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 additional information available

10.4. Conditions to avoid

Heat.

10.5. Incompatible materials

Strong acids. Oxidizing agent. Strong bases.

10.6. Hazardous decomposition products

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 Oral: Harmful if swallowed. Dermal: Harmful in contact with skin.

ATE CLP (oral)	1782.669 mg/kg bodyweight
ATE CLP (dermal)	1222.222 mg/kg bodyweight

pentaethylenhexamine (4067-16-7)	
LD50 oral rat	1600 mg/kg (Rat)

Benzyl alcohol (100-51-6)	
LD50 oral rat	1620 mg/kg
LC50 inhalation rat (mg/l)	> 4178 mg/m ³

Skin corrosion/irritation	Causes severe skin burns and eye damage. pH: > 13
Serious eye damage/irritation	Causes serious eye damage. pH: > 13
Respiratory or skin sensitisation	May cause an allergic skin reaction.
Germ cell mutagenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicity (single exposure)	Not classified

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Specific target organ toxicity (repeated exposure)	Not classified
Aspiration hazard	Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general Very toxic to aquatic life with long lasting effects.

pentaethylenhexamine (4067-16-7)	
LC50 fish 1	180 mg/l (Poecilia reticulata)
Threshold limit algae 1	0.7 mg/l (Selenastrum capricornutum; Biomass)

12.2. Persistence and degradability

pentaethylenhexamine (4067-16-7)	
Persistence and degradability	Not readily biodegradable in water.

12.3. Bioaccumulative potential

pentaethylenhexamine (4067-16-7)	
Log Pow	-1.6 (QSAR)
Bioaccumulative potential	Bioaccumulation: not applicable.

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

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	Dispose of contents/container in accordance with licensed collector's sorting instructions.
European List of Waste (LoW) code	07 02 04* - other organic solvents, washing liquids and mother liquors

SECTION 14: Transport information

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

Other information	No supplementary information available
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14.1. UN number

UN-No. (ADR)	2735
UN-No. (IMDG)	2735
UN-No. (IATA)	2735
UN-No. (ADN)	2735
UN-No. (RID)	2735

14.2. UN proper shipping name

Proper Shipping Name (ADR)	AMINES, LIQUID, CORROSIVE, N.O.S.
Proper Shipping Name (IMDG)	AMINES, LIQUID, CORROSIVE, N.O.S.

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Proper Shipping Name (IATA)	Amines, liquid, corrosive, n.o.s.
Proper Shipping Name (ADN)	AMINES, LIQUID, CORROSIVE, N.O.S.
Proper Shipping Name (RID)	AMINES, LIQUID, CORROSIVE, N.O.S.
Transport document description (ADR)	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S., 8, III, (E)
Transport document description (IMDG)	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S., 8, III

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	8
Danger labels (ADR)	8



IMDG

Transport hazard class(es) (IMDG)	8
Danger labels (IMDG)	8



IATA

Transport hazard class(es) (IATA)	8
Hazard labels (IATA)	8



ADN

Transport hazard class(es) (ADN)	8
Danger labels (ADN)	8

RID

Transport hazard class(es) (RID)	8
Danger labels (RID)	8



14.4. Packing group

Packing group (ADR)	III
Packing group (IMDG)	III

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Packing group (IATA)	III
Packing group (ADN)	III
Packing group (RID)	III

14.5. Environmental hazards

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))
Marine pollutant	Yes (ADR 5.2.1.8.1 derogation applies (quantity of liquids ≤ 5 litres or net mass of solids ≤ 5 kg))
Other information	No supplementary information available

14.6. Special precautions for user

- Overland transport

Classification code (ADR)	C7
Special provisions (ADR)	274
Limited quantities (ADR)	1I
Packing instructions (ADR)	P001, IBC02
Mixed packing provisions (ADR)	MP15
Orange plates	

Tunnel restriction code (ADR)	E
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- Transport by sea

Special provisions (IMDG)	223, 274
Limited quantities (IMDG)	5 L
Packing instructions (IMDG)	P001, LP01
EmS-No. (Fire)	F-A
EmS-No. (Spillage)	S-B
Stowage category (IMDG)	A
MFAG-No	153

- Air transport

PCA packing instructions (IATA)	852
PCA max net quantity (IATA)	5L
Special provisions (IATA)	A3

- Inland waterway transport

Classification code (ADN)	C7
Special provisions (ADN)	274
Limited quantities (ADN)	5 L
Excepted quantities (ADN)	E1
Carriage permitted (ADN)	T
Equipment required (ADN)	PP, EP
Number of blue cones/lights (ADN)	0
Carriage prohibited (ADN)	No
Not subject to ADN	No

- Rail transport

Special provisions (RID)	274
Limited quantities (RID)	5L
Packing instructions (RID)	P001, IBC03, LP01, R001

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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

15.1.2. National regulations

Switzerland

Swiss CPID No 360670-26

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Full text of H- and EUH-statements:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), 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 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Sens. 1	Sensitisation — Skin, Category 1
H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H400	Very toxic to aquatic life
H410	Very toxic 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