

HUS4-MAX

Safety information for 2-Component-products

Issue date: 22/06/2022

Revision date: 22/06/2022

Version: 1.0

SECTION 1: Kit identification

1.1 Product identifier

Product name	HUS4-MAX
	
Product code	BU Anchor

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

Hilti (Hong Kong) Ltd.
701-704, 7/F, Tower A, Manulife Financial Centre
223 Wai Yip Street, Kwun Tong
Kowloon - Hong Kong
T +852 27734 700
hksales@hilti.com

SECTION 2: General information

Restrictions on use	For professional use only
Storage	Storage temperature : -20 - +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:

Classification of the Product

Classification according to the United Nations GHS

Org. Perox. F	H242
Acute Tox. 5 (Oral)	H303
Eye Irrit. 2	H319
Skin Sens. 1	H317
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

Label elements

Labelling according to the United Nations GHS

Hazard pictograms (GHS UN)



Signal word (GHS UN)

Warning

Hazardous ingredients

2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol (A); 2-Propenoic acid, 2-methyl-, 1,4-butanediyl ester (A); 4-tert-butylpyrocatechol (A); dibenzoyl peroxide (B)

Hazard statements (GHS UN)

H242 - Heating may cause a fire.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements (GHS UN)

P210 - Keep away from heat, hot surfaces, open flames, sparks. – No smoking.
P280 - Wear eye protection, protective clothing, protective gloves.

HUS4-MAX

Safety information for 2-Component-products

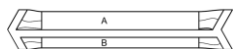
P262 - Do not get in eyes, on skin, or on clothing.
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
 P337+P313 - If eye irritation persists: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

Additional information

Foil capsule contains:

Component A: Urethane methacrylate resin

Component B: Dibenzoyl peroxide, phlegmatized



Name	General description	Quantity	Unit	Classification according to the United Nations GHS
HUS4-MAX, A		1	pcs (pieces)	Acute Tox. 5 (Oral), H303 Skin Sens. 1, H317
HUS4-MAX, B		1	pcs (pieces)	Org. Perox. F, H242 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

SECTION 4: General advice

General advice

For professional users only

SECTION 5: Safe handling advice

General measures

Spilled material may present a slipping hazard

Environmental precautions

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

Storage conditions

Keep container tightly closed.
 Keep cool. Protect from sunlight.
 Avoid contact with : Air
 Expiry date: See date printed on box and capsule. Do not use if expiry date has been exceeded!
 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Precautions for safe handling

Wear personal protective equipment
 Avoid contact with skin and eyes
 Avoid breathing dust, vapours.
 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
 Prevent the build-up of electrostatic charge
 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Methods for cleaning up

Stop leak without risks if possible
 Use non-sparking tools
 Absorb and/or contain spill with inert material, then place in suitable container.
 This material and its container must be disposed of in a safe way, and as per local legislation

For containment

Collect spillage.

Incompatible materials

Strong acids
 Strong bases
 Activator
 reducing agents
 solid salts and solutions containing heavy metals

HUS4-MAX

Safety information for 2-Component-products

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 persists
First-aid measures after ingestion	Rinse mouth Get medical advice/attention. Do not induce vomiting Obtain emergency medical attention
First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air Allow the victim to rest
First-aid measures after skin contact	Wash contaminated clothing before reuse. Wash with plenty of water/... If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures general	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/effects after eye contact	May cause severe irritation
Symptoms/effects after skin contact	May cause an allergic skin reaction.
Other medical advice or treatment	Treat symptomatically

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	Self-contained breathing apparatus 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

HUS4-MAX, B

Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

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SECTION 1: Identification

1.1. GHS Product identifier

Product form	Mixture
Trade name	HUS4-MAX, B
UN-No. (ADR)	3109
Product code	BU Anchor

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture	Adhesive anchor capsule for anchor fastening in concrete
Recommended use	For professional use only

1.4. Supplier's details

Supplier	Department issuing data specification sheet
Hilti (Hong Kong) Ltd.	Hilti Entwicklungsgesellschaft mbH
701-704, 7/F, Tower A, Manulife Financial Centre	Hiltistraße 6
223 Wai Yip Street, Kwun Tong	86916 Kaufering - Deutschland
Kowloon - Hong Kong	T +49 8191 906876
T +852 27734 700	

1.5. Emergency phone number

Emergency number	Schweizerisches Toxikologisches Informationszentrum – 24h Service
	+41 44 251 51 51 (international)
	+852 27734 700

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Organic Peroxides, Type F	H242	Expert judgment
Serious eye damage/eye irritation, Category 2	H319	Calculation method
Skin sensitisation, Category 1	H317	Calculation method
Hazardous to the aquatic environment – Acute Hazard, Category 1	H400	Calculation method
Hazardous to the aquatic environment – Chronic Hazard, Category 1	H410	Calculation method

Full text of H-statements: see section 16

2.2. GHS Label elements, including precautionary statements

Labelling according to the United Nations GHS

Hazard pictograms (GHS UN)



GHS02

GHS07

GHS09

Signal word (GHS UN)

Warning

Hazardous ingredients

dibenzoyl peroxide

HUS4-MAX, B

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according to the United Nations GHS (Rev. 4, 2011)

Hazard statements (GHS UN)	H242 - Heating may cause a fire H317 - May cause an allergic skin reaction H319 - Causes serious eye irritation H410 - Very toxic to aquatic life with long lasting effects
Precautionary statements (GHS UN)	P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. 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 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, medical attention. P333+P313 - If skin irritation or rash occurs: Get medical advice, medical attention.

2.3. Other hazards which do not result in classification

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to the United Nations GHS
dibenzoyl peroxide	(CAS-No.) 94-36-0	10 – 25	Organic Peroxides, Type B, H241 Serious eye damage/eye irritation, Category 2A, H319 Skin sensitisation, Category 1, H317 Hazardous to the aquatic environment – Acute Hazard, Category 1, H400 (M=10) Hazardous to the aquatic environment – Chronic Hazard, Category 1, H410 (M=10)

Full text of H-statements: see section 16

SECTION 4: First-aid measures

4.1. Description of necessary first-aid measures

First-aid measures general	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 person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	Wash contaminated clothing before reuse. Wash with plenty of 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. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	If swallowed, seek medical advice immediately and show this container or label.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after skin contact	May cause an allergic skin reaction.
Symptoms/effects after eye contact	Causes serious eye irritation.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically.

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SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media	Water spray. Carbon dioxide. Dry powder. Alcohol-resistant foam.
Unsuitable extinguishing media	Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard	May form flammable vapour-air mixtures. May decompose violently at elevated temperatures or in a fire. Burns vigorously. Insoluble in water. Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation. Will float and can be reignited on water surface.
Explosion hazard	Vapours may form explosive mixture with air.
Reactivity in case of fire	Decomposition products may be a hazard to health.
Hazardous decomposition products in case of fire	Formation of toxic gases is possible during heating or in case of fire. Corrosive vapours. Thermal decomposition can lead to the release of irritating gases and vapours.

5.3. Special protective actions for fire-fighters

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

General measures	Spilled material may present a slipping hazard.
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6.1.1. For non-emergency personnel

Protective equipment	Wear recommended personal protective equipment.
Emergency procedures	Evacuate unnecessary personnel. No flames, no sparks. Eliminate all sources of ignition. Explosive vapour/air mixtures may be formed.

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 materials for containment and cleaning up

For containment	Collect spillage.
Methods for cleaning up	Stop leak without risks if possible. Use non-sparking tools. Absorb and/or contain spill with inert material, then place in suitable container. This material and its container must be disposed of in a safe way, and as per local legislation.
Other information	Dispose of materials or solid residues at an authorized site.

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. Avoid breathing dust, vapours. 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. Prevent the build-up of electrostatic charge. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
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.

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according to the United Nations GHS (Rev. 4, 2011)

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	Comply with applicable regulations.
Storage conditions	Keep container tightly closed. Keep cool. Protect from sunlight. Avoid contact with : Air. Store away from other materials. Expiry date: See date printed on box and capsule. Do not use if expiry date has been exceeded!.
Incompatible materials	Strong acids. Strong bases. Activator. reducing agents. solid salts and solutions containing heavy metals.
Heat and ignition sources	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Storage temperature	-20 – 25 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls	Ensure adequate ventilation.
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.

8.3. Individual protection measures, such as personal protective equipment (PPE)

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)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0,12		EN ISO 374

Eye protection Wear security glasses which protect from splashes

Type	Field of application	Characteristics	Standard
Safety glasses	Droplet	clear	EN 166, EN 170

Skin and body protection Long sleeved protective clothing

Personal protective equipment symbol(s)



8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	Liquid
Colour	white.
Odour	characteristic.
Odour threshold	Not available
Melting point	Not available

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Freezing point	Not available
Boiling point	Not available
Flammability (solid, gas)	Not available
Explosive limits	Not available
Lower explosive limit (LEL)	Not available
Upper explosive limit (UEL)	Not available
Flash point	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
pH	≈ 7
pH solution	Not available
Viscosity, kinematic (calculated value) (40 °C)	0 mm ² /s
Partition coefficient n-octanol/water (Log Kow)	Not available
Vapour pressure	23.4 hPa
Vapour pressure at 50 °C	Not available
Density	1.03 g/cm ³
Relative density	Not available
Relative vapour density at 20 °C	Not available
Solubility	insoluble in water.
Viscosity, dynamic	200 mPa.s
Explosive properties	Product is not explosive
Particle size	Not applicable
Particle size distribution	Not applicable
Particle shape	Not applicable
Particle aspect ratio	Not applicable
Particle specific surface area	Not applicable

9.2. Data relevant with regard to physical hazard classes (supplemental)

SADT	70 °C
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SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under recommended handling and storage conditions (see section 7).

10.2. Chemical stability

Stable under normal conditions. Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

Can form explosive mixtures with air.

10.4. Conditions to avoid

May decompose violently at elevated temperatures or in a fire. Burns vigorously. Insoluble in water. Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5. Incompatible materials

Strong acids. Strong bases. Activator. reducing agents. solid salts and solutions containing heavy metals.

10.6. Hazardous decomposition products

Toxic and corrosive gases are released. Toxic and corrosive fumes are released.

HUS4-MAX, B

Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified
Skin corrosion/irritation	Not classified pH: ≈ 7
Serious eye damage/irritation	Causes serious eye irritation. pH: ≈ 7
Respiratory or skin sensitisation	May cause an allergic skin reaction.
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
STOT-single exposure	Not classified
STOT-repeated exposure	Not classified
Aspiration hazard	Not classified

HUS4-MAX, B	
Viscosity, kinematic	0 mm ² /s

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute)	Very toxic to aquatic life.
Classification procedure (Hazardous to the aquatic environment, short-term (acute))	Calculation method
Hazardous to the aquatic environment, long-term (chronic)	Very toxic to aquatic life with long lasting effects.
Classification procedure (Hazardous to the aquatic environment, long-term (chronic))	Calculation method

dibenzoyl peroxide (94-36-0)	
LC50 - Fish [2]	0.0602 mg/l (96h; Oncorhynchus mykiss; ECHA)
EC50 - Crustacea [1]	0.11 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
ErC50 algae	0.0711 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)
NOEC (acute)	0.0316 mg/l (96h; Oncorhynchus mykiss; ECHA)
NOEC chronic fish	0.001 mg/l

12.2. Persistence and degradability

HUS4-MAX, B	
Persistence and degradability	No additional information available

dibenzoyl peroxide (94-36-0)	
Persistence and degradability	Readily biodegradable in water. Not established. May cause long-term adverse effects in the environment.

HUS4-MAX, B

Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

12.3. Bioaccumulative potential

HUS4-MAX, B	
Bioaccumulative potential	No additional information available
dibenzoyl peroxide (94-36-0)	
Partition coefficient n-octanol/water (Log Kow)	3.71
Bioaccumulative potential	Low bioaccumulation potential (Log Kow < 4).

12.4. Mobility in soil

HUS4-MAX, B	
Mobility in soil	No additional information available
dibenzoyl peroxide (94-36-0)	
Surface tension	No data available (test not performed)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.8 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value)
Ecology - soil	Low potential for mobility in soil.

12.5. Other adverse effects

Ozone	Not classified
Other adverse effects	No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional legislation (waste)	Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	After curing, the product can be disposed of with household waste. . Full or only partially emptied cartridges must be disposed of as special waste in accordance with official regulations. Packaging contaminated by the product : Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials	Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / RID

ADR	IMDG	IATA	RID
14.1. UN number or ID number			
UN 3109	UN 3109	UN 3109	UN 3109
14.2. UN proper shipping name			
ORGANIC PEROXIDE TYPE F, LIQUID (dibenzoyl peroxide)	ORGANIC PEROXIDE TYPE F, LIQUID (dibenzoyl peroxide)	Organic peroxide type f, liquid (dibenzoyl peroxide)	ORGANIC PEROXIDE TYPE F, LIQUID (dibenzoyl peroxide)
Transport document description			
UN 3109 ORGANIC PEROXIDE TYPE F, LIQUID (dibenzoyl peroxide), 5.2, (D), ENVIRONMENTALLY HAZARDOUS	UN 3109 ORGANIC PEROXIDE TYPE F, LIQUID (dibenzoyl peroxide), 5.2, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS	UN 3109 Organic peroxide type f, liquid (dibenzoyl peroxide), 5.2, ENVIRONMENTALLY HAZARDOUS	UN 3109 ORGANIC PEROXIDE TYPE F, LIQUID (dibenzoyl peroxide), 5.2, ENVIRONMENTALLY HAZARDOUS
14.3. Transport hazard class(es)			
5.2	5.2	5.2	5.2

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Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

ADR	IMDG	IATA	RID
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
No supplementary information available			

14.6. Special precautions for user

Overland transport

Classification code (ADR)	P1
Special provisions (ADR)	122, 274
Limited quantities (ADR)	125ml
Packing instructions (ADR)	P520, IBC520
Mixed packing provisions (ADR)	MP4
Transport category (ADR)	2
Orange plates	



Tunnel restriction code (ADR)	D
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Transport by sea

Special provisions (IMDG)	122, 274
Packing instructions (IMDG)	P520
EmS-No. (Fire)	F-J
EmS-No. (Spillage)	S-R
Stowage category (IMDG)	D
Stowage and handling (IMDG)	SW1
Segregation (IMDG)	SG35, SG36, SG72

Air transport

PCA packing instructions (IATA)	570
PCA max net quantity (IATA)	10L
CAO packing instructions (IATA)	570
Special provisions (IATA)	A20, A150, A802

Rail transport

Special provisions (RID)	122, 274
Packing instructions (RID)	P520, IBC520

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

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according to the United Nations GHS (Rev. 4, 2011)

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations specific for the product in question

No additional information available

SECTION 16: Other information

SDS Major/Minor

None

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22/06/2022

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Abbreviations and acronyms

CAS-No. - Chemical Abstract Service number

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road

ATE - Acute Toxicity Estimate

BCF - Bioconcentration factor

BLV - Biological limit value

BOD - Biochemical oxygen demand (BOD)

CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008

COD - Chemical oxygen demand (COD)

DMEL - Derived Minimal Effect level

DNEL - Derived-No Effect Level

EC50 - Median effective concentration

EC-No. - European Community number

ED - Endocrine disrupting properties

EN - European Standard

IARC - International Agency for Research on Cancer

IATA - International Air Transport Association

IMDG - International Maritime Dangerous Goods

IOELV - Indicative Occupational Exposure Limit Value

LC50 - Median lethal concentration

LD50 - Median lethal dose

LOAEL - Lowest Observed Adverse Effect Level

N.O.S. - Not Otherwise Specified

NOAEC - No-Observed Adverse Effect Concentration

NOAEL - No-Observed Adverse Effect Level

NOEC - No-Observed Effect Concentration

OECD - Organisation for Economic Co-operation and Development

OEL - Occupational Exposure Limit

PBT - Persistent Bioaccumulative Toxic

PNEC - Predicted No-Effect Concentration

REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006

RID - Regulations concerning the International Carriage of Dangerous Goods by Rail

SDS - Safety Data Sheet

ThOD - Theoretical oxygen demand (ThOD)

TRGS - Technical Rules for Hazardous Substances

VOC - Volatile Organic Compounds

TLM - Median Tolerance Limit

vPvB - Very Persistent and Very Bioaccumulative

WGK - Water Hazard Class



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Other information None.

Full text of H-statements:	
H241	Heating may cause a fire or explosion
H242	Heating may cause a fire
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

SDS_UN_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.

HUS4-MAX, A

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according to the United Nations GHS (Rev. 4, 2011)

Issue date: 22/06/2022 Revision date: 22/06/2022 : Version: 1.0

SECTION 1: Identification

1.1. GHS Product identifier

Product form	Mixture
Trade name	HUS4-MAX, A
Product code	BU Anchor

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture	Adhesive anchor capsule for anchor fastening in concrete
Recommended use	For professional use only

1.4. Supplier's details

Supplier	Department issuing data specification sheet
Hilti (Hong Kong) Ltd. 701-704, 7/F, Tower A, Manulife Financial Centre 223 Wai Yip Street, Kwun Tong Kowloon - Hong Kong T +852 27734 700	Hilti Entwicklungsgesellschaft mbH Hiltistraße 6 86916 Kaufering - Deutschland T +49 8191 906876

1.5. Emergency phone number

Emergency number	Schweizerisches Toxikologisches Informationszentrum – 24h Service +41 44 251 51 51 (international) +852 27734 700
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SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Acute toxicity (oral), Category 5	H303	Calculation method
Skin sensitisation, Category 1	H317	Calculation method
Full text of H-statements: see section 16		

2.2. GHS Label elements, including precautionary statements

Labelling according to the United Nations GHS

Hazard pictograms (GHS UN)



Signal word (GHS UN)

GHS07

Hazardous ingredients

Warning

Hazard statements (GHS UN)

2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol, 2-Propenoic acid, 2-methyl-, 1,4-butanediyl ester, 1,1'-(p-tolylimino)dipropan-2-ol, 4-tert-butylpyrocatechol
H317 - May cause an allergic skin reaction

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

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to the United Nations GHS
2-Propenoic acid, 2-methyl-, 1,4-butanediyl ester	(CAS-No.) 2082-81-7	60 – 80	Acute toxicity (oral) Not classified Skin sensitisation, category 1B, H317
1,1'-(p-tolylimino)dipropan-2-ol	(CAS-No.) 38668-48-3	1 – 2.5	Acute toxicity (oral), Category 2, H300 Serious eye damage/eye irritation, Category 2A, H319 Hazardous to the aquatic environment – Acute Hazard, Category 3, H402 Hazardous to the aquatic environment – Chronic Hazard, Category 3, H412
2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol	(CAS-No.) 27813-02-1	0.1 – 1	Flammable liquids Not classified Acute toxicity (oral) Not classified Serious eye damage/eye irritation, Category 2A, H319 Skin sensitisation, Category 1, H317
4-tert-butylpyrocatechol	(CAS-No.) 98-29-3	0.1 – 1	Acute toxicity (oral), Category 4, H302 Acute toxicity (dermal), Category 3, H311 Skin corrosion/irritation, Category 1B, H314 Skin sensitisation, Category 1, H317 Hazardous to the aquatic environment – Acute Hazard, Category 1, H400 Hazardous to the aquatic environment – Chronic Hazard, Category 2, H411

Full text of H-statements: see section 16

SECTION 4: First-aid measures

4.1. Description of necessary first-aid measures

First-aid measures general	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 person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	Wash contaminated clothing before reuse. Wash with plenty of 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 persists.

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First-aid measures after ingestion Rinse mouth. Get medical advice/attention. Do not induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms/effects, acute and delayed

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

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable 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. Specific hazards arising from the chemical

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

5.3. Special protective actions for fire-fighters

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

General measures Spilled material may present a slipping hazard.

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 materials 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.

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.

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7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	Keep cool. Protect from sunlight. Expiry date: See date printed on box and capsule. Do not use if expiry date has been exceeded!.
Incompatible products	Strong bases. Strong acids.
Incompatible materials	Sources of ignition. Direct sunlight.
Heat and ignition sources	Keep away from heat and direct sunlight.
Storage temperature	-20 – 25 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls	Ensure good ventilation of the work station.
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.

8.3. Individual protection measures, such as personal protective equipment (PPE)

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

Eye protection Wear security glasses which protect from splashes

Type	Field of application	Characteristics	Standard
Safety glasses	Droplet	clear	EN 166, EN 170

Skin and body protection Long sleeved protective clothing

Personal protective equipment symbol(s)



8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	Liquid
Colour	light yellow.
Odour	characteristic.
Odour threshold	Not available
Melting point	Not available
Freezing point	Not available
Boiling point	Not available

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Flammability (solid, gas)	Not available
Explosive limits	Not available
Lower explosive limit (LEL)	Not available
Upper explosive limit (UEL)	Not available
Flash point	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
pH	5.7
pH solution	Not available
Viscosity, kinematic (calculated value) (40 °C)	160.55 mm ² /s
Partition coefficient n-octanol/water (Log Kow)	Not available
Vapour pressure	Not available
Vapour pressure at 50 °C	Not available
Density	1.09 g/cm ³
Relative density	Not available
Relative vapour density at 20 °C	Not available
Solubility	Not available
Viscosity, dynamic	175 mPa.s
Particle size	Not applicable
Particle size distribution	Not applicable
Particle shape	Not applicable
Particle aspect ratio	Not applicable
Particle specific surface area	Not applicable

9.2. Data relevant with regard to physical hazard classes (supplemental)

SADT

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.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	May be harmful if swallowed.
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified

ATE UN (oral)	2095.382 mg/kg bodyweight
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2-Propenoic acid, 2-methyl-, 1,4-butanediyl ester (2082-81-7)	
LD50 oral rat	10066 mg/kg
LD50 dermal rat	> 3000 mg/kg

1,1'-(p-tolylimino)dipropan-2-ol (38668-48-3)	
LD50 oral rat	25 mg/kg
LD50 dermal rat	> 2000 mg/kg

2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol (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)

4-tert-butylpyrocatechol (98-29-3)	
LD50 oral rat	815 mg/kg bodyweight (Rat; Lethal; ECHA)
LD50 oral	2820 mg/kg
LD50 dermal rat	1331 mg/kg bodyweight (Rat; Lethal; ECHA)
LD50 dermal	630 mg/kg

Skin corrosion/irritation	Not classified pH: 5.7
Serious eye damage/irritation	Not classified pH: 5.7
Respiratory or skin sensitisation	May cause an allergic skin reaction.
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
STOT-single exposure	Not classified
STOT-repeated exposure	Not classified
Aspiration hazard	Not classified

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Viscosity, kinematic	160.55 mm ² /s

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute)	Not classified
Hazardous to the aquatic environment, long-term (chronic)	Not classified

2-Propenoic acid, 2-methyl-, 1,4-butanediyl ester (2082-81-7)	
LC50 - Other aquatic organisms [1]	9.79 mg/l
NOEC (acute)	7.51 mg/l
NOEC (chronic)	20 mg/l

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 - Crustacea [1]	28.8 mg/l
NOEC (acute)	57.8 mg/l

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2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol (27813-02-1)	
LC50 - Fish [1]	493 mg/l (48 h; Leuciscus idus; GLP)
EC50 - Crustacea [1]	> 143 mg/l (48 h; Daphnia magna; GLP)
ErC50 algae	97.2 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, 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)
4-tert-butylpyrocatechol (98-29-3)	
LC50 - Fish [1]	0.12 mg/l (96 h, Danio rerio, Lethal, ECHA)
ErC50 algae	10.17 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)

12.2. Persistence and degradability

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Persistence and degradability	No additional information available
2-Propenoic acid, 2-methyl-, 1,4-butanediyl ester (2082-81-7)	
Not rapidly degradable	
Biodegradation	84 %
2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol (27813-02-1)	
Not rapidly degradable	
Persistence and degradability	Readily biodegradable in water.
4-tert-butylpyrocatechol (98-29-3)	
Not rapidly degradable	
Persistence and degradability	Not readily biodegradable in water.
ThOD	2.4 g O ₂ /g substance

12.3. Bioaccumulative potential

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Bioaccumulative potential	No additional information available
2-Propenoic acid, 2-methyl-, 1,4-butanediyl ester (2082-81-7)	
Partition coefficient n-octanol/water (Log Kow)	3.1
1,1'-(p-tolylimino)dipropan-2-ol (38668-48-3)	
Partition coefficient n-octanol/water (Log Pow)	2.1
2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol (27813-02-1)	
BCF - Fish [1]	≤ 100
BCF - Fish [2]	3.2 Quantitative structure-activity relationship (QSAR)
Partition coefficient n-octanol/water (Log Kow)	0.97 (OECD 102 method)
Bioaccumulative potential	Low bioaccumulation potential (BCF < 500).
4-tert-butylpyrocatechol (98-29-3)	
Partition coefficient n-octanol/water (Log Kow)	1.98 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

HUS4-MAX, A	
Mobility in soil	No additional information available
2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol (27813-02-1)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.9 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.



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4-tert-butylpyrocatechol (98-29-3)	
Surface tension	No data available (test not performed)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.37 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value, GLP)
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

Ozone	Not classified
Other adverse effects	No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional legislation (waste)	Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	After curing, the product can be disposed of with household waste. Full or only partially emptied cartridges must be disposed of as special waste in accordance with official regulations. Packaging contaminated by the product : Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials	Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / RID

ADR	IMDG	IATA	RID
14.1. UN number or ID number			
Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name			
Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)			
Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group			
Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards			
Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available			

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Rail transport

Not regulated



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14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations specific for the product in question

No additional information available

SECTION 16: Other information

SDS Major/Minor	None
Issue date	22/06/2022
Revision date	22/06/2022

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Abbreviations and acronyms

CAS-No. - Chemical Abstract Service number
 ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
 ATE - Acute Toxicity Estimate
 BCF - Bioconcentration factor
 BLV - Biological limit value
 BOD - Biochemical oxygen demand (BOD)
 CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
 COD - Chemical oxygen demand (COD)
 DMEL - Derived Minimal Effect level
 DNEL - Derived-No Effect Level
 EC50 - Median effective concentration
 EC-No. - European Community number
 ED - Endocrine disrupting properties
 EN - European Standard
 IARC - International Agency for Research on Cancer
 IATA - International Air Transport Association
 IMDG - International Maritime Dangerous Goods
 IOELV - Indicative Occupational Exposure Limit Value
 LC50 - Median lethal concentration
 LD50 - Median lethal dose
 LOAEL - Lowest Observed Adverse Effect Level
 N.O.S. - Not Otherwise Specified
 NOAEC - No-Observed Adverse Effect Concentration
 NOAEL - No-Observed Adverse Effect Level
 NOEC - No-Observed Effect Concentration
 OECD - Organisation for Economic Co-operation and Development
 OEL - Occupational Exposure Limit
 PBT - Persistent Bioaccumulative Toxic
 PNEC - Predicted No-Effect Concentration
 REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
 RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
 SDS - Safety Data Sheet
 ThOD - Theoretical oxygen demand (ThOD)
 TRGS - Technical Rules for Hazardous Substances
 VOC - Volatile Organic Compounds
 TLM - Median Tolerance Limit
 vPvB - Very Persistent and Very Bioaccumulative
 WGK - Water Hazard Class
 None.

Other information

Full text of H-statements:	
H300	Fatal if swallowed
H302	Harmful if swallowed
H303	May be harmful if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction



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H319	Causes serious eye irritation
H400	Very toxic to aquatic life
H402	Harmful to aquatic life
H411	Toxic to aquatic life with long lasting effects
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.