

HUS4-MAX

Safety information for 2-Component-products

Issue date: 05/02/2025

Revision date: 05/02/2025

Version: 1.1

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 Far East Private Ltd.
80 Pasir Panjang Road,
#16-83/84 Mapletree Business City
117372 Singapore - Singapur
T +65 6777 7887 - F +65 6777 3057
sg-customerservice@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: Kit contents

Classification of the Product

GHS SG classification

Physical hazards	Organic peroxides, Type F
Health hazards	Serious eye damage/eye irritation, Category 2 Skin sensitisation, Category 1
Environmental hazards	Hazardous to the aquatic environment – Acute Hazard, Category 1 Hazardous to the aquatic environment – Chronic Hazard, Category 1

Label elements

GHS SG labelling

Hazard pictograms (GHS SG)



GHS02

GHS07

GHS09

Signal word (GHS SG)

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 SG)

H242 - Heating may cause a fire.
H317 - May cause an allergic skin reaction.

HUS4-MAX

Safety information for 2-Component-products

Precautionary statements (GHS SG)

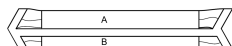
H319 - Causes serious eye irritation.
H410 - Very toxic to aquatic life with long lasting effects.
P210 - Keep away from heat, hot surfaces, open flames, sparks. – No smoking.
P280 - Wear eye protection, protective clothing, protective gloves.
P262 - Do not get in eyes, on skin, or on clothing.
P305+P351+P338 - 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 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	GHS SG classification
HUS4-MAX, A		1	pcs (pieces)	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

HUS4-MAX

Safety information for 2-Component-products

reducing agents
solid salts and solutions containing heavy metals

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, A

Safety Data Sheet

According to SS 586 Part 3 (2022)
Issue date: 05.02.2025

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Supersedes: 22.06.2022

Version: 1.1

SECTION 1: Identification

1.1. Product identifier

Name	HUS4-MAX, A
Product code	BU Anchor
Chemical name	Adhesive Capsule HUS4-MAX, A
Generic name	HUS4-MAX, A

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Recommended use	Adhesive anchor capsule for anchor fastening in concrete
Restrictions on use	For professional use only

1.4. Supplier's details

Supplier

Hilti Far East Private Ltd.
80 Pasir Panjang Road, #16-83/84 Mapletree Business City Singapore
Singapur 117372
T +65 6777 7887 - F +65 6777 3057
sg-customerservice@hilti.com

Department issuing data specification sheet

Hilti Entwicklungsgesellschaft mbH
Hiltistraße 6 Kaufering Deutschland 86916
T +49 8191 906876
product.compliance-anchors@hilti.com

1.5. Emergency phone number

Emergency number	GBK GmbH Global Regulatory Compliance +49 (0)6132-84463
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SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Health hazards	Skin sensitisation, Category 1
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2.2. GHS label elements, including precautionary statements

Hazard pictograms (GHS SG)



Signal word (GHS SG)

Warning

Hazard statements (GHS SG)

H317 : May cause an allergic skin reaction

Precautionary statements

Prevention

P280 : Wear eye protection, protective clothing, protective gloves.
P262 : Do not get in eyes, on skin, or on clothing.

Response

P305+P351+P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313 : If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 : If eye irritation persists: Get medical advice/attention.
P302+P352 : IF ON SKIN: Wash with plenty of soap and water.

2.3. Other hazards which do not result in classification

No additional information available

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According to SS 586 Part 3 (2022)

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Concentration (%)	Formula	Product identifier
2-Propenoic acid, 2-methyl-, 1,4-butanediyl ester	60 – 80	C12H18O4	CAS-No.: 2082-81-7 EC-No.: 218-218-1
1,1'-(p-tolylimino)dipropan-2-ol	1 – 2.5	C13H21NO2	CAS-No.: 38668-48-3 EC-No.: 254-075-1
2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol	0.1 – 1	C7H12O3	CAS-No.: 27813-02-1 EC-No.: 248-666-3 EC Index-No.: 607-125-00-5
4-tert-butylpyrocatechol	0.1 – 1	C10H14O2	CAS-No.: 98-29-3 EC-No.: 202-653-9

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).
Inhalation	Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.
Skin contact	Wash contaminated clothing before reuse. Wash with plenty of water/.... If skin irritation or rash occurs: Get medical advice/attention.
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.
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.
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4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment	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. 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.
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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.

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According to SS 586 Part 3 (2022)

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 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.

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. 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.
Storage temperature	-20 – 25 °C
Heat and ignition sources	Keep away from heat and direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters/Occupational exposure limits

No additional information available

8.2. Appropriate engineering control measures

Appropriate engineering controls	Ensure good ventilation of the work station.
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8.3. Personal protection – 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
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According to SS 586 Part 3 (2022)

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

Skin and body protection

Wear suitable protective clothing

Personal protective equipment symbol(s)



Environmental exposure controls

Avoid release to the environment.

Consumer exposure controls

Avoid contact during pregnancy/while nursing.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Colour	light yellow
Odour	characteristic
Odour threshold	No data available
pH	5.7
Relative evaporation rate (butylacetate=1)	No data available
Evaporation rate	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	No data available
Decomposition temperature	No data available
Flammability	No data available
Vapour pressure	No data available
Relative vapour density at 20°C	No data available
Relative density	No data available
Density	1.09 g/cm ³
Solubility	No data available
Partition coefficient n-octanol/water (Log Pow)	No data available
Partition coefficient n-octanol/water (Log Kow)	No data available
Viscosity, kinematic	160.55 mm ² /s
Viscosity, dynamic	175 mPa·s
Explosive properties	No data available
Oxidising properties	No data available
Explosive limits	No data available
Particle size	No data available
Particle size distribution	No data available
Particle shape	No data available
Particle aspect ratio	No data available
Particle specific surface area	No data available

9.2. Other information

SADT

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

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According to SS 586 Part 3 (2022)

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. Acute toxicity

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

2-Propenoic acid, 2-methyl-, 1,4-butanediyl ester (2082-81-7)	
LD50 oral rat	10066 mg/kg
LD50 oral	10060 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
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, A	
Viscosity, kinematic	160.55 mm ² /s

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According to SS 586 Part 3 (2022)

HUS4-MAX, A	
Density	1.09 g/cm ³

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
ErC50 algae	9.79 mg/l
NOEC (acute)	7.51 mg/l
NOEC (chronic)	20 mg/l
NOEC chronic crustacea	5.09 mg/l
NOEC chronic algae	2.11 mg/l
Partition coefficient n-octanol/water (Log Pow)	3.1

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
Partition coefficient n-octanol/water (Log Kow)	2.1

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)
BCF - Fish [1]	≤ 100
BCF - Fish [2]	3.2 Quantitative structure-activity relationship (QSAR)
Partition coefficient n-octanol/water (Log Pow)	0.97 (OECD 102 method)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.9 (log Koc, Calculated value)
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)

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4-tert-butylpyrocatechol (98-29-3)	
Partition coefficient n-octanol/water (Log Pow)	1.98 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)
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)

12.2. Persistence and degradability

HUS4-MAX, A	
Persistence and degradability	No additional information available
2-Propenoic acid, 2-methyl-, 1,4-butanediyl ester (2082-81-7)	
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

HUS4-MAX, A	
Bioaccumulative potential	No additional information available
2-Propenoic acid, 2-methyl-, 1,4-butanediyl ester (2082-81-7)	
Partition coefficient n-octanol/water (Log Pow)	3.1
1,1'-(p-tolylimino)dipropan-2-ol (38668-48-3)	
Partition coefficient n-octanol/water (Log Kow)	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 Pow)	0.97 (OECD 102 method)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.9 (log Koc, Calculated value)
Bioaccumulative potential	Low bioaccumulation potential (BCF < 500).
4-tert-butylpyrocatechol (98-29-3)	
Partition coefficient n-octanol/water (Log Pow)	1.98 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)
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)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

HUS4-MAX, A	
Mobility in soil	No additional information available

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2-Propenoic acid, 2-methyl-, 1,4-butanediyl ester (2082-81-7)	
Partition coefficient n-octanol/water (Log Pow)	3.1
1,1'-(p-tolylimino)dipropan-2-ol (38668-48-3)	
Partition coefficient n-octanol/water (Log Kow)	2.1
2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol (27813-02-1)	
Partition coefficient n-octanol/water (Log Pow)	0.97 (OECD 102 method)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.9 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.
4-tert-butylpyrocatechol (98-29-3)	
Surface tension	No data available (test not performed)
Partition coefficient n-octanol/water (Log Pow)	1.98 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)
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

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.
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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			

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According to SS 586 Part 3 (2022)

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Rail transport

Not regulated

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

Regulation	Component / Mixture
Arms and Explosives Act	Not applicable
Chemical Weapons Prohibition Act	
Environmental Protection and Management (Air Impurities) Regulations	
Environmental Protection and Management Act (Hazardous Substances)	
Environmental Public Health (Quality of Piped Drinking Water) Regulations	
Fire Safety Act/Fire Safety (Petroleum and Flammable Materials) Regulations	
Maritime and Port Authority of Singapore (Dangerous, Petroleum and Explosives) Regulations	
Misuse of Drugs Act	
Poisons Act	
Poisons Rules	
Hazardous waste (Control of export, import and transit) Act	
Strategic goods (Control) Act	

15.2. International regulations

No additional information available

15.3 Chemical inventory status

No additional information available

SECTION 16: Other information

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 Revision date 05/02/2025

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According to SS 586 Part 3 (2022)

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

Indication of changes			
Section	Changed item	Change	Comments
	Regulations Singapore	Modified	According to SS 586 Part 3 (2022)
1	Department issuing data specification sheet	Modified	E-mail address
1	Emergency number	Modified	

SDS_SG_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, B

Safety Data Sheet

According to SS 586 Part 3 (2022)
Issue date: 05.02.2025

Revision date: 05.02.2025

Supersedes: 22.06.2022

Version: 1.1

SECTION 1: Identification

1.1. Product identifier

Name	HUS4-MAX, B
Product code	BU Anchor
Chemical name	Adhesive Capsule HUS4-MAX, B

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Recommended use	Adhesive anchor capsule for anchor fastening in concrete
Restrictions on use	For professional use only

1.4. Supplier's details

Supplier

Hilti Far East Private Ltd.
80 Pasir Panjang Road, #16-83/84 Mapletree Business City Singapore
Singapur 117372
T +65 6777 7887 - F +65 6777 3057
sg-customerservice@hilti.com

Department issuing data specification sheet

Hilti Entwicklungsgesellschaft mbH
Hiltistraße 6 Kaufering Deutschland 86916
T +49 8191 906876
product.compliance-anchors@hilti.com

1.5. Emergency phone number

Emergency number	GBK GmbH Global Regulatory Compliance +49 (0)6132-84463
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SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Physical hazards	Organic peroxides, Type F
Health hazards	Serious eye damage/eye irritation, Category 2 Skin sensitisation, Category 1
Environmental hazards	Hazardous to the aquatic environment – Acute Hazard, Category 1 Hazardous to the aquatic environment – Chronic Hazard, Category 1

2.2. GHS label elements, including precautionary statements

Hazard pictograms (GHS SG)



Signal word (GHS SG)

Warning

Hazard statements (GHS SG)

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

Prevention

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.

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Response

P305+P351+P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P333+P313 : If skin irritation or rash occurs: Get medical advice/attention.

P337+P313 : If eye irritation persists: Get medical advice/attention.

P302+P352 : IF ON SKIN: Wash with plenty of soap and water.

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	Concentration (%)	Formula	Product identifier
dibenzoyl peroxide	10 – 25	C14H10O4	CAS-No.: 94-36-0 EC-No.: 202-327-6 EC Index-No.: 617-008-00-0

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).
Inhalation	Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.
Skin contact	Wash contaminated clothing before reuse. Wash with plenty of water/.... If skin irritation or rash occurs: Get medical advice/attention.
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.
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

Other medical advice or treatment	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.

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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.

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 material 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.

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.

Storage temperature -20 – 25 °C

Heat and ignition sources Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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According to SS 586 Part 3 (2022)

Flash point	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability	No data available
Vapour pressure	23.4 hPa
Relative vapour density at 20°C	No data available
Relative density	No data available
Density	1.03 g/cm ³
Solubility	insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	No data available
Partition coefficient n-octanol/water (Log Kow)	No data available
Viscosity, kinematic	0 mm ² /s
Viscosity, dynamic	200 mPa·s
Explosive properties	Product is not explosive.
Oxidising properties	No data available
Explosive limits	No data available
Particle size	No data available
Particle size distribution	No data available
Particle shape	No data available
Particle aspect ratio	No data available
Particle specific surface area	No data available

9.2. Other information

SADT 70 °C

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.

SECTION 11: Toxicological information

11.1. Acute toxicity

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.
Respiratory or skin sensitisation	May cause an allergic skin reaction.

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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	0 mm ² /s
Density	1.03 g/cm ³

SECTION 12: Ecological information

12.1. Toxicity

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

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
Partition coefficient n-octanol/water (Log Pow)	3.71
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)

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.

12.3. Bioaccumulative potential

HUS4-MAX, B	
Bioaccumulative potential	No additional information available

dibenzoyl peroxide (94-36-0)	
Partition coefficient n-octanol/water (Log Pow)	3.71
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)
Bioaccumulative potential	Low bioaccumulation potential (Log Kow < 4).

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According to SS 586 Part 3 (2022)

12.4. Mobility in soil

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Mobility in soil	No additional information available
dibenzoyl peroxide (94-36-0)	
Surface tension	No data available (test not performed)
Partition coefficient n-octanol/water (Log Pow)	3.71
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

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.
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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 UN3109	UN UN3109	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 UN3109 ORGANIC PEROXIDE TYPE F, LIQUID (dibenzoyl peroxide), 5.2, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS	UN UN3109 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
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable

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According to SS 586 Part 3 (2022)

ADR	IMDG	IATA	RID
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	<div style="border: 2px solid black; padding: 5px; display: inline-block; background-color: orange; color: black; font-weight: bold; font-size: 1.2em;">539</div> <div style="border: 2px solid black; padding: 5px; display: inline-block; background-color: orange; color: black; font-weight: bold; font-size: 1.2em;">3109</div>

Tunnel restriction code (ADR) D

Transport by sea

Special provisions (IMDG)	122, 274
Limited quantities (IMDG)	125 ml
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

SECTION 15: Regulatory information

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

Regulation	Component / Mixture
Arms and Explosives Act	Not applicable
Chemical Weapons Prohibition Act	
Environmental Protection and Management (Air Impurities) Regulations	

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Regulation		Component / Mixture
Environmental Protection and Management Act (Hazardous Substances)		
Environmental Public Health (Quality of Piped Drinking Water) Regulations		
Fire Safety Act/Fire Safety (Petroleum and Flammable Materials) Regulations		
Maritime and Port Authority of Singapore (Dangerous, Petroleum and Explosives) Regulations	Maritime and Port Authority-Dangerous Goods	Organic peroxide type B, solid
Misuse of Drugs Act	Not applicable	
Poisons Act		
Poisons Rules		
Hazardous waste (Control of export, import and transit) Act		
Strategic goods (Control) Act		

15.2. International regulations

No additional information available

15.3 Chemical inventory status

No additional information available

SECTION 16: Other information

Issue date	05/02/2025
Revision date	05/02/2025
Abbreviations and acronyms	<p>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</p>

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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

Other information

None.

Indication of changes			
Section	Changed item	Change	Comments
	Regulations Singapore	Modified	According to SS 586 Part 3 (2022)
1	Department issuing data specification sheet	Modified	E-mail address
1	Emergency number	Modified	

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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.