

HUS4-MAX

Safety information for 2-Component-products

Issue date: 05/07/2023 Revision date: 05/07/2023 Version: 1.0

SECTION 1: Kit identification

1.1 Product identifier

Product name HUS4-MAX

HUSA-MAX 10a HUSA-MAX 3

Product code BU Anchor

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

Hilti, Inc.
Legacy Tower, Suite 1000
7250 Dallas Parkway
TX 75024 Plano - USA
T +1 9724035800
1-800-879-8000 toll free - F +1 918 254 0522

SECTION 2: General information

Storage temperature : 5 - 25 °C

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

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

SECTION 3: Kit contents

Classification of the Product

GHS-US classification

Org. Perox. F H242 - Heating may cause a fire.
Eye Irrit. 2A H319 - Causes serious eye irritation.
Skin Sens. 1 H317 - May cause an allergic skin reaction.

Label elements

GHS US labelling

Hazard pictograms (GHS US)





GHS02

Signal word (GHS US) 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 US)

Heating may cause a fire.

May cause an allergic skin reaction. Causes serious eye irritation.

Precautionary statements (GHS US) Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

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Safety information for 2-Component-products

smoking.

Wear eye protection, protective clothing, protective gloves.

Do not get in eyes, on skin, or on clothing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present

and easy to do. Continue rinsing.

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

If eye irritation persists: Get medical advice/attention.

If on skin: Wash with plenty of water.

Additional information

Foil capsule contains:

Component A: Urethane methacrylate resin Component B: Dibenzoyl peroxide, phlegmatized



Name	General description	Quantity	Unit	GHS-US classification
HUS4-MAX, A		1	pcs (pieces)	Skin Sens. 1, H317
HUS4-MAX, B		1	pcs (pieces)	Org. Perox. F, H242 Eye Irrit. 2A, H319 Skin Sens. 1, H317

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.

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Safety information for 2-Component-products

Incompatible materials Strong acids

Strong bases Activator 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.

SECTION 7: Fire fighting measures

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

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SECTION 1: Identification

1.1. Identification

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

1.2. Recommended use and restrictions on use

Recommended use Adhesive anchor capsule for anchor fastening in concrete

Restrictions on use For professional use only

1.3. Supplier

Supplier

Hilti, Inc. Legacy Tower, Suite 1000

7250 Dallas Parkway Plano, TX 75024

USA

T +1 9724035800

1-800-879-8000 toll free - F +1 918 254 0522

Department issuing data specification sheet

Hilti Entwicklungsgesellschaft mbH

Hiltistraße 6 Kaufering, 86916 Deutschland T +49 8191 906876

anchor.hse@hilti.com

1.4. Emergency telephone number

Emergency number

Chem-Trec

Tel.: 1800 424 9300 (USA, PR, Virgin Islands, Canada)

Tel.: 703 527 3887 (Other countries)

+1 918 8723000 1-800-879-8000 toll free

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Organic Peroxides, Type F H242 Heating may cause a fire.

Serious eye damage/eye irritation, Category 2A H319 Causes serious eye irritation.

Skin sensitisation, Category 1 H317 May cause an allergic skin reaction.

Full text of H-statements: see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labelling

Hazard pictograms (GHS US)





Signal word (GHS US)

Hazard statements (GHS US) H242 - Heating may cause a fire.

H317 - May cause an allergic skin reaction. H319 - Causes serious eye irritation.

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Precautionary statements (GHS US) P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

moking.

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.

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 water.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
dibenzoyl peroxide	CAS-No.: 94-36-0		Org. Perox. B, H241 Eye Irrit. 2A, H319 Skin Sens. 1, H317

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

SECTION 4: First-aid measures

4.1. Description of 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 and 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. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

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SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) 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 equipment and precautions for fire-fighters

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.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling 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 5-25 °C

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

HUS4-MAX, B		
JSA - ACGIH - Occupational Exposure Limits		
Local name	Benzoyl peroxide	
ACGIH OEL TWA	5 mg/m³	
Remark (ACGIH)	TLV® Basis: URT & skin irr. Notations: A4 (Not classifiable as a Human Carcinogen)	
Regulatory reference	ACGIH 2020	
USA - OSHA - Occupational Exposure Limits		
Local name	Benzoyl peroxide	
OSHA PEL TWA [1]	5 mg/m³	
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1	
dibenzoyl peroxide (94-36-0)		
USA - ACGIH - Occupational Exposure Limits		
Local name	Benzoyl peroxide	
ACGIH OEL TWA	5 mg/m³	
Remark (ACGIH)	TLV® Basis: URT & skin irr. Notations: A4 (Not classifiable as a Human Carcinogen)	
Regulatory reference	ACGIH 2020	
USA - OSHA - Occupational Exposure Limits		
Local name	Benzoyl peroxide	

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dibenzoyl peroxide (94-36-0)	
OSHA PEL TWA [1] 5 mg/m³	
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

8.2. Appropriate engineering controls

Appropriate engineering controls Ensure adequate ventilation.

Environmental exposure controls Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Safety glasses. Gloves. Avoid all unnecessary exposure. Protective clothing.

Hand protection:

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

Туре	Material	Permeation	Thickness (mm)	Penetration
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0,12	

Eye protection:

Wear security glasses which protect from splashes

Туре	Field of application	Characteristics
Safety glasses	Droplet	clear

Skin and body protection:

Long sleeved protective clothing

Personal protective equipment symbol(s):







Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state Liquid
Colour white
Odour characteristic
Odour threshold No data available

pH ≈ 7

Melting point

Freezing point

No data available

No data available

Boiling point

No data available

No data available

No data available

Relative evaporation rate (butylacetate=1)

No data available

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Flammability (solid, gas)

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/cm³
Solubility insoluble in water.

Partition coefficient n-octanol/water (Log Pow)

Auto-ignition temperature

No data available

Decomposition temperature

No data available

 Viscosity, kinematic
 0 mm²/s

 Viscosity, dynamic
 200 mPa⋅s

 Explosive limits
 No data available

 Explosive properties
 Product is not explosive.

 Oxidising properties
 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

Serious eye damage/irritation

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. Information on toxicological effects

Acute toxicity (oral)Not classifiedAcute toxicity (dermal)Not classifiedAcute toxicity (inhalation)Not classifiedSkin corrosion/irritationNot classifiedpH: ≈ 7

Causes serious eye irritation.

pH: ≈ 7

Respiratory or skin sensitisation May cause an allergic skin reaction.

Germ cell mutagenicity

Not classified

Carcinogenicity

Not classified

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dibenzoyl peroxide (94-36-0)		
IARC group	3 - Not classifiable	
Reproductive toxicity	Not classified	
STOT-single exposure	Not classified	
STOT-repeated exposure	Not classified	
Aspiration hazard	Not classified	
Viscosity, kinematic	0 mm²/s	
Symptoms/effects after skin contact	May cause an allergic skin reaction.	
Symptoms/effects after eye contact	Causes serious eye irritation.	

SECTION 12: Ecological information

12.1. Toxicity

dibenzoyl peroxide (94-36-0)		
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)	
LC50 - Fish [2]	0.0602 mg/l (96h; Oncorhynchus mykiss; ECHA)	
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

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

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

12.4. Mobility in soil

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

No additional information available

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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 n	umber		
UN 3109	UN 3109	UN 3109	UN 3109
14.2. UN proper shippin	g 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 (dibenzoy peroxide)
Transport document descr	iption		
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/ENVIRONME NTALLY 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 o	class(es)		
5.2	5.2	5.2	5.2
5.2	5.2	5.2	5.2
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental haz	ards		
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes
environment: Yes No supplementary information	Marine pollutant: Yes		environment: Yes

14.6. Special precautions for user

Overland transport

Classification code (ADR) P1
Special provisions (ADR) 122, 274

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Limited quantities (ADR) 125ml
Packing instructions (ADR) P520, IBC520
Mixed packing provisions (ADR) MP4

Transport category (ADR) 2

Orange plates 539

Tunnel restriction code (ADR)

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

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

dibenzoyl peroxide CAS-No. 94-36-0 10 – 25%

15.2. International regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

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07/05/2023 Revision date None. Other information

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.

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	

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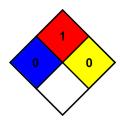
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Abbreviations and acronyms		
NOEC	No-Observed Effect Concentration	
OECD	Organisation for Economic Co-operation and Development	
OEL	Occupational Exposure Limit	
PBT	Persistent Bioaccumulative Toxic	
PNEC	Predicted No-Effect Concentration	
REACH	Registration, 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	

NFPA health hazard

NFPA fire hazard NFPA reactivity

- 0 Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.
- 1 Materials that must be preheated before ignition can occur.
- 0 Material that in themselves are normally stable, even under fire conditions.



SDS US Hilti

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

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SECTION 1: Identification

1.1. Identification

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

1.2. Recommended use and restrictions on use

Recommended use Adhesive anchor capsule for anchor fastening in concrete

Restrictions on use For professional use only

1.3. Supplier

Supplier

Hilti, Inc.

Legacy Tower, Suite 1000 7250 Dallas Parkway Plano, TX 75024

USA

T+19724035800

1-800-879-8000 toll free - F +1 918 254 0522

Department issuing data specification sheet

Hilti Entwicklungsgesellschaft mbH

Hiltistraße 6 Kaufering, 86916 Deutschland T +49 8191 906876

anchor.hse@hilti.com

1.4. Emergency telephone number

Emergency number

Chem-Trec

Tel.: 1800 424 9300 (USA, PR, Virgin Islands, Canada)

Tel.: 703 527 3887 (Other countries)

+1 918 8723000 1-800-879-8000 toll free

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin sensitisation, Category 1

Full text of H-statements: see section 16

H317

May cause an allergic skin reaction.

2.2. GHS Label elements, including precautionary statements

GHS US labelling

Hazard pictograms (GHS US)



Signal word (GHS US)

Hazard statements (GHS US)

Precautionary statements (GHS US)

Warning

H317 - May cause an allergic skin reaction.

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.

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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 water.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
2-Propenoic acid, 2-methyl-, 1,4-butanediyl ester	CAS-No.: 2082-81-7	60 – 80	Skin Sens. 1B, H317
1,1'-(p-tolylimino)dipropan-2-ol	CAS-No.: 38668-48-3	1 – 2.5	Acute Tox. 2 (Oral), H300 Eye Irrit. 2A, H319
2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol	CAS-No.: 27813-02-1	0.1 – 1	Eye Irrit. 2A, H319 Skin Sens. 1, H317
4-tert-butylpyrocatechol	CAS-No.: 98-29-3	0.1 – 1	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1B, H314 Skin Sens. 1, H317

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

SECTION 4: First-aid measures

11	Description	of firet ai	d 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.

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

attention.

4.2. Most important symptoms and 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. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

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SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) 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 equipment and precautions for fire-fighters

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 material for containment and cleaning up

For containment Collect spillage.

Methods for cleaning up

This material and its container must be disposed of in a safe way, and as per local legislation.

Mechanically recover the product. Store away from other materials.

Other information Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling Wear personal protective equipment. Avoid contact with skin and eyes. Wash hands and other

exposed areas with mild soap and water before eating, drinking or smoking and when leaving

work. Provide good ventilation in process area to prevent formation of vapour.

Hygiene measures Do not eat, drink or smoke when using this product. Always wash hands after handling the

product. Contaminated work clothing should not be allowed out of the workplace. Wash

contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions Keep cool. Protect from sunlight. 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.

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Storage temperature 5 – 25 °C

Heat and ignition sources Keep away from heat and direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

HUS4-MAX, A

No additional information available

2-Propenoic acid, 2-methyl-, 1,4-butanediyl ester (2082-81-7)

No additional information available

1,1'-(p-tolylimino)dipropan-2-ol (38668-48-3)

No additional information available

2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol (27813-02-1)

No additional information available

4-tert-butylpyrocatechol (98-29-3)

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.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Safety glasses. Gloves. Avoid all unnecessary exposure. Protective clothing.

Hand protection:

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

Туре	Material	Permeation	Thickness (mm)	Penetration
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0,12	

Eye protection:

Wear security glasses which protect from splashes

Туре	Field of application	Characteristics
Safety glasses	Droplet	clear

Skin and body protection:

Long sleeved protective clothing

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Personal protective equipment symbol(s):







Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state Liquid Colour light yellow Odour characteristic Odour threshold No data available

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5.7 Melting point No data available Freezing point No data available Boiling point No data available Flash point No data available Relative evaporation rate (butylacetate=1) No data available Flammability (solid, gas) No data available Vapour pressure No data available Relative vapour density at 20°C No data available No data available Relative density Density 1.09 g/cm3 Solubility No data available Partition coefficient n-octanol/water (Log Pow) No data available No data available Auto-ignition temperature Decomposition temperature No data available Viscosity, kinematic 160.55 mm²/s 175 mPa·s Viscosity, dynamic **Explosive limits** No data available Explosive properties No data available Oxidising properties No data available

9.2. Other information

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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.

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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

GEOTION III TOXIOOTOGICAI IIIIOIII	
11.1. Information on toxicological effects	
Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified
2-Propenoic acid, 2-methyl-, 1,4-butanedi	yl 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 w	vith 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
Viscosity, kinematic	160.55 mm²/s
Symptoms/effects after skin contact	May cause an allergic skin reaction.
Symptoms/effects after eye contact	May cause severe irritation.

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SECTION 12: Ecological information

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12.1. Toxicity			
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		
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

,,,,,,,,		
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	

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12.3. Bioaccumulative potential

12.0. Bloaceumulative potential			
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)		
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)		
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).		

12.4. Mobility in soil

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.	
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

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

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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 shippin	g name				
Not regulated	Not regulated	Not regulated	Not regulated		
14.3. Transport hazard	class(es)				
Not regulated	Not regulated	Not regulated	Not regulated		
I4.4. Packing group					
Not regulated	Not regulated	Not regulated	Not regulated		
14.5. Environmental haz	zards				
Not regulated	Not regulated	Not regulated	Not regulated		
No supplementary information	on available		1		

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. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

15.2. International regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

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Revision date 07/05/2023 Other information None.

Full text of H-statements	
H300	Fatal if swallowed.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.

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	

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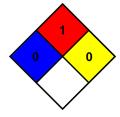
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Abbreviations and acronyms		
NOAEC	No-Observed Adverse Effect Concentration	
NOAEL	No-Observed Adverse Effect Level	
NOEC	No-Observed Effect Concentration	
OECD	Organisation for Economic Co-operation and Development	
OEL	Occupational Exposure Limit	
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	

NFPA health hazard

NFPA fire hazard NFPA reactivity

- 0 Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.
- 1 Materials that must be preheated before ignition can occur.
- 0 Material that in themselves are normally stable, even under fire conditions.



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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.

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