

Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 10.06.2024

Version number 5 (replaces version 4)

Revision: 10.06.2024

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

1.1 Product identifier

Trade name: **Top Shield Black High-Performance Protection**

Article number: 12018

UFI: M0UN-NM8V-E31S-G121

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

No further relevant information available.

Application of the substance / the mixture

Protective impregnation

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: AKEMI chemisch technische Spezialfabrik GmbH
Lechstrasse 28
D 90451 Nürnberg

Tel. +49(0)911-642960
Fax. +49(0)911-644456
e-mail info@akemi.de

Further information obtainable from:

Laboratory

1.4 Emergency telephone number:

Product Safety Department AKEMI chemisch technische Spezialfabrik GmbH
Tel. +49(0)911-64296-59
Reachable during the following office hours:
Monday – Thursday from 07:30 a.m. to 16:30 p.m.
Friday from 07:30 a.m. to 13:30 p.m.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flam. Liq. 3 H226 Flammable liquid and vapour.

Eye Irrit. 2 H319 Causes serious eye irritation.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor if you feel unwell.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention.

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

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

The product is classified and labelled according to the CLP regulation.



GHS02 GHS07 GHS08

Signal word: Danger

Hazard-determining components of labelling:

2,2,4,6,6-pentamethylheptan
Hydrocarbons, C10-C12, Isoalkanes, <2% aromatics
H226 Flammable liquid and vapour.
H319 Causes serious eye irritation.
H304 May be fatal if swallowed and enters airways.
H412 Harmful to aquatic life with long lasting effects.

Hazard statements

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SECTION 4: First aid measures**4.1 Description of first aid measures**

- General information: Take affected persons out into the fresh air.
Position and transport stably in side position.
- After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: If skin irritation continues, consult a doctor.
- After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing: If symptoms persist consult doctor.

4.2 Most important symptoms and effects, both acute and delayed

Headache
Breathing difficulty
Profuse sweating
Dizziness
Dizziness
Nausea
Danger of impaired breathing.

- Hazards

4.3 Indication of any immediate medical attention and special treatment needed

If swallowed, gastric irrigation with added, activated carbon.
If swallowed or in case of vomiting, danger of entering the lungs.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

- Suitable extinguishing agents: CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

5.2 Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in case of fire.
In case of fire, the following can be released:
Carbon monoxide (CO)
Under certain fire conditions, traces of other toxic gases cannot be excluded.

5.3 Advice for firefighters

- Protective equipment: Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.
Wear fully protective suit.
- Additional information Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation
Use respiratory protective device against the effects of fumes/dust/aerosol.
Keep away from ignition sources.

6.2 Environmental precautions:

Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

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- **6.4 Reference to other sections**
- Dispose contaminated material as waste according to section 13.
 Ensure adequate ventilation.
 See Section 7 for information on safe handling.
 See Section 8 for information on personal protection equipment.
 See Section 13 for disposal information.

SECTION 7: Handling and storage· **7.1 Precautions for safe handling**

Keep receptacles tightly sealed.
 Store in cool, dry place in tightly closed receptacles.
 Keep away from heat and direct sunlight.
 Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).
 Use only in well ventilated areas.
 Ensure good ventilation/exhaustion at the workplace.

· **Information about fire - and explosion protection:**

No special measures required.

· **7.2 Conditions for safe storage, including any incompatibilities**· **Storage:**· **Requirements to be met by storerooms and receptacles:**

Store only in the original receptacle.
 Prevent any seepage into the ground.

· **Information about storage in one common storage facility:**

Store away from oxidising agents.
 Store away from foodstuffs.

· **Further information about storage conditions:**

Store receptacle in a well ventilated area.
 Protect from frost.

· **Storage class:**

3

· **7.3 Specific end use(s)**

No further relevant information available.

SECTION 8: Exposure controls/personal protection· **8.1 Control parameters**· **Ingredients with limit values that require monitoring at the workplace:****67-56-1 methanol**

IOELV	Long-term value: 260 mg/m ³ , 200 ppm
	Skin

· **DNELs****5593-70-4 tetra-n-butoxytitanium**

Oral	DNEL (Langzeit-wiederholt)	3.75 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	37.5 mg/kg bw/day (BEV)
Inhalative	DNEL (Langzeit-wiederholt)	500 mg/m ³ Air (ARB)
		38 mg/m ³ Air (BEV)

67-56-1 methanol

Oral	DNEL (Kurzzeit-akut)	4 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	4 mg/kg bw/day (BEV)
	DNEL (Kurzzeit-akut)	20 mg/kg bw/day (ARB)
		4 mg/kg bw/day (BEV)
	DNEL (Langzeit-wiederholt)	20 mg/kg bw/day (ARB)

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Inhalative	DNEL (Kurzzeit-akut)	4 mg/kg bw/day (BEV)
		130 mg/m ³ Air (ARB)
	DNEL (Langzeit-wiederholt)	26 mg/m ³ Air (BEV)
		130 mg/m ³ Air (ARB)
		26 mg/m ³ Air (BEV)

· PNECs

5593-70-4 tetra-n-butoxytitanium

PNEC (wässrig)	105 mg/l (KA)
	0.059 mg/l (MW)
	0.59 mg/l (SW)
	2.25 mg/l (WAS)
PNEC (fest)	0.017 mg/kg Trockengew (BO)
	0.048 mg/kg Trockengew (MWS)
	0.482 mg/kg Trockengew (SWS)

67-56-1 methanol

PNEC (wässrig)	100 mg/l (KA)
	2.08 mg/l (MW)
	20.8 mg/l (SW)
	1,540 mg/l (WAS)
PNEC (fest)	100 mg/kg Trockengew (BO)
	7.7 mg/kg Trockengew (MWS)
	77 mg/kg Trockengew (SWS)

· Additional information: The lists valid during the making were used as basis.· **8.2 Exposure controls**

- Appropriate engineering controls No further data; see section 7.
- Individual protection measures, such as personal protective equipment
- General protective and hygienic measures:

Do not eat, drink, smoke or sniff while working.
 Apply solvent resistant skin cream before starting work.
 Use skin protection cream for skin protection.
 Clean skin thoroughly immediately after handling the product.
 Keep away from foodstuffs, beverages and feed.
 Wash hands before breaks and at the end of work.
 Do not inhale gases / fumes / aerosols.

· Respiratory protection:

Filter AX
 In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· Hand protection

Preventive skin protection by use of skin-protecting agents is recommended.
 After use of gloves apply skin-cleaning agents and skin cosmetics.
 Skin protection agent recommendation for preventive skin shelter without use of protective gloves:
 STOKODERM (<http://www.stoko.com>)
 Skin protection agent recommendation for preventive skin shelter in application and combination of protective gloves:
 STOKO EMULSION (<http://www.stoko.com>)
 Skin protection recommendation for skin cleaning after product handling:
 FRAPANTOL (<http://www.stoko.com>)
 Skin protection agent recommendation for skin aftercare:
 STOKO VITAN (<http://www.stoko.com>)
 The protection gloves to be used have to comply with the specifications of the directive 89/686/EC and the directive derived decree EN374, respectively, e.g.

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the above listed protection glove type. The mentioned permeation times' data were generated and verified with material samples of the recommended protection glove type in the scope of laboratory analyses of the company KCL GmbH in compliance with EN374.

This recommendation refers exclusively to the material safety data sheet referenced product delivered by Akemi and the indicated field of application. In case of product dilution or in case of mixture with different substances or chemicals, and in condition of EN374 deviation the producer of CE-approved protection gloves must be contacted for detailed information (e.g., KCL GmbH, Germany, 36124 Eichenzell, internet: <http://www.kcl.de>).



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

Fluorocarbon rubber (Viton)

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

Value for the permeation: Level \leq 6; 480 min

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· For the permanent contact gloves made of the following materials are suitable:

Fluorocarbon rubber (Viton)
Vitoject (KCL, Art_No. 890)
Butyl rubber, BR

· As protection from splashes gloves made of the following materials are suitable:

Nitrile rubber, NBR
Camatril (KCL, 730, 731, 732, 733)
Chloroprene rubber, CR
Camapren (KCL, Art_No. 720, 722, 726)
Butoject (KCL, Art_No. 897, 898)
Fluorocarbon rubber (Viton)
Vitoject (KCL, Art_No. 890)
Butoject (KCL, Art_No. 897, 898)
Butyl rubber, BR

· Not suitable are gloves made of the following materials:

Natural rubber, NR
Leather gloves
Strong material gloves

· Eye/face protection

Goggles recommended during refilling

· Body protection:

Protective work clothing

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SECTION 9: Physical and chemical properties**· 9.1 Information on basic physical and chemical properties**

· <u>General Information</u>	
· <u>Colour:</u>	Black
· <u>Odour:</u>	Specific type
· <u>Odour threshold:</u>	Not determined.
· <u>Melting point/freezing point:</u>	Undetermined.
· <u>Boiling point or initial boiling point and boiling range</u>	Undetermined.
· <u>Flammability</u>	Not applicable.
· <u>Lower and upper explosion limit</u>	
· <u>Lower:</u>	0.7 Vol %
· <u>Upper:</u>	10.4 Vol %
· <u>Flash point:</u>	42 °C
· <u>Auto-ignition temperature:</u>	270 °C
· <u>Decomposition temperature:</u>	Not determined.
· <u>pH</u>	Not determined.
	Not applicable
· <u>Viscosity:</u>	
· <u>Kinematic viscosity</u>	Not determined.
· <u>Dynamic:</u>	Not determined.
· <u>Solubility</u>	
· <u>water:</u>	Not miscible or difficult to mix.
· <u>Partition coefficient n-octanol/water (log value)</u>	Not determined.
· <u>Vapour pressure at 20 °C:</u>	10.7 hPa
· <u>Density and/or relative density</u>	
· <u>Density at 20 °C:</u>	0.87 g/cm ³
· <u>Relative density</u>	Not determined.
· <u>Vapour density</u>	Not determined.

· 9.2 Other information

· <u>Appearance:</u>	
· <u>Form:</u>	Fluid
· <u>Important information on protection of health and environment, and on safety.</u>	
· <u>Ignition temperature:</u>	Product is not selfigniting.
· <u>Explosive properties:</u>	Product does not present an explosion hazard.
· <u>Solvent content:</u>	
· <u>Organic solvents:</u>	50.0 %
· <u>Change in condition</u>	
· <u>Evaporation rate</u>	Not determined.

· Information with regard to physical hazard classes

· <u>Explosives</u>	Void
· <u>Flammable gases</u>	Void
· <u>Aerosols</u>	Void
· <u>Oxidising gases</u>	Void
· <u>Gases under pressure</u>	Void
· <u>Flammable liquids</u>	Flammable liquid and vapour.
· <u>Flammable solids</u>	Void
· <u>Self-reactive substances and mixtures</u>	Void
· <u>Pyrophoric liquids</u>	Void
· <u>Pyrophoric solids</u>	Void
· <u>Self-heating substances and mixtures</u>	Void
· <u>Substances and mixtures, which emit flammable gases in contact with water</u>	Void
· <u>Oxidising liquids</u>	Void

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· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions** Reacts with strong oxidising agents.
Forms flammable gases/fumes.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

· LD/LC50 values relevant for classification:

ATE (Acute Toxicity Estimates)

Oral	LD50	22,447 mg/kg (rat)
Dermal	LD50	67,340 mg/kg

13475-82-6 2,2,4,6,6-pentamethylheptan

Oral	LD50	>5,000 mg/kg (rat) (OECD 401)
Dermal	LD50	2,200-2,500 mg/kg (rabbit) (OECD 402)
Inhalative	LC50/8h	>5 ppm (rat)
	LC50/48h	>3,193 mg/l (daphnia magna) (ISO 14559)

Hydrocarbons, C10-C12, Isoalkanes, <2% aromatics

Oral	LD50	>5,000 mg/kg (rat) (OECD 401)
Dermal	LD50	>5,000 mg/kg (rabbit) (OECD 402)
Inhalative	LC50/8h	>5 mg/l (rat)
	LC50/48h	>1,000 mg/l (daphnia magna) (OECD 202)

5593-70-4 tetra-n-butoxytitanium

Oral	LD50	3,122 mg/kg (rat)
Dermal	LD50	5,300 mg/kg (rabbit)
Inhalative	LC50/4 h	11 mg/l (rat)

67-56-1 methanol

Oral	LD50	100 mg/kg (rat)
Dermal	LD50	15,800 mg/kg (rabbit)
		300 mg/kg (rat)
Inhalative	LC50/4 h	128.2 mg/l (rat)

- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

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- Carcinogenicity Based on available data, the classification criteria are not met.
- Reproductive toxicity Based on available data, the classification criteria are not met.
- STOT-single exposure Based on available data, the classification criteria are not met.
- STOT-repeated exposure Based on available data, the classification criteria are not met.
- Aspiration hazard May be fatal if swallowed and enters airways.
- **11.2 Information on other hazards**

· Endocrine disrupting properties

None of the ingredients is listed.

SECTION 12: Ecological information· **12.1 Toxicity**· Aquatic toxicity:**13475-82-6 2,2,4,6,6-pentamethylheptan**

IC50/72h	>1,000 mg/l (Pseudokirchneriella subcapitata)
EC50/48h	>1,000 mg/l (daphnia magna)
NOELR/72h	1,000 mg/l (Pseudokirchneriella subcapitata) (OECD201)
NOELR/21d	0.02 mg/l (daphnia magna) (OECD 211)
NOELR/28d	0.267 mg/l (Oncorhynchus mykiss) ((Q)SAR)
EC50/72h	>1,000 mg/l (Pseudokirchneriella subcapitata) (OECD 201)
LC50/96h	>1,000 mg/l (Oncorhynchus mykiss) (OECD 203)

Hydrocarbons, C10-C12, Isoalkanes, <2% aromatics

EL0/48h	1,000 mg/l (daphnia magna)
EL0/72h	1,000 mg/l (Pseudokirchneriella subcapitata)
LL0/96h	1,000 mg/l (Oncorhynchus mykiss)
NOELR/72h	1,000 mg/l (Pseudokirchneriella subcapitata) (OECD 201)
NOELR/21d	<1 mg/l (daphnia magna) (OECD 211)
NOELR/28d	0.192 mg/l (Oncorhynchus mykiss) ((Q)SAR)
EC50/72h	>1,000 mg/l (Pseudokirchneriella subcapitata) (OECD 201)
LC50/96h	>1,000 mg/l (Oncorhynchus mykiss) (OECD 203)

5593-70-4 tetra-n-butoxytitanium

EC50/96h	225 mg/l (algae)
EC50/48h	1,300 mg/l (daphnia magna)
NOEC/21d	4 mg/l (daphnia magna)
EC10	134 mg/l (algae)
	650 mg/l (bacteria)
EC50/72h	225 mg/l (algae)
LC50/96h	1,740-2,300 mg/l (piscis)

67-56-1 methanol

EC50/96h	22,000 mg/l (Pseudokirchneriella subcapitata)
IC50	>1,000 mg/l (BES)
EC50/48h	18,260 mg/l (daphnia magna)
EC50/72h	22,000 mg/l (Scenedesmus quadricauda)
LC50/96h	13,500-17,600 mg/l (lem)
	19,500-20,700 mg/l (Oncorhynchus mykiss)
	28,200 mg/l (pimephales promelas)

· **12.2 Persistence and degradability**

No further relevant information available.

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- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:** Do not allow product to reach ground water, water course or sewage system. Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation** Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.
- **Recommended cleansing agents:** Alcohol

SECTION 14: Transport information

- | | |
|--|---|
| <ul style="list-style-type: none"> · 14.1 UN number or ID number · ADR, IMDG, IATA | UN3295 |
| <ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR · IMDG, IATA | 3295 HYDROCARBONS, LIQUID, N.O.S. (Hydrocarbons, C10-C12, Isoalkanes, <2% aromatics, 2,2,4,6,6-pentamethylheptan)
HYDROCARBONS, LIQUID, N.O.S. (Hydrocarbons, C10-C12, Isoalkanes, <2% aromatics, 2,2,4,6,6-pentamethylheptan) |
| <ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR | <div style="text-align: center;">  </div> |
| <ul style="list-style-type: none"> · Class · Label | 3 (F1) Flammable liquids.
3 |
| <ul style="list-style-type: none"> · IMDG, IATA | <div style="text-align: center;">  </div> |
| <ul style="list-style-type: none"> · Class · Label | 3 Flammable liquids.
3 |
| <ul style="list-style-type: none"> · 14.4 Packing group · ADR, IMDG, IATA | III |

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· 14.5 Environmental hazards:

· Marine pollutant: No

· 14.6 Special precautions for user

Warning: Flammable liquids.
 · Hazard identification number (Kemler code): 30
 · EMS Number: F-E, S-D
 · Stowage Category: A

· 14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

· Transport/Additional information:

· ADR

· Limited quantities (LQ) 5L
 · Excepted quantities (EQ) Code: E1
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 1000 ml
 · Transport category 3
 · Tunnel restriction code D/E

· IMDG

· Limited quantities (LQ) 5L
 · Excepted quantities (EQ) Code: E1
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 1000 ml

· UN "Model Regulation":

UN 3295 HYDROCARBONS, LIQUID, N.O.S.
 (HYDROCARBONS, C10-C12, ISOALKANES, <2%
 AROMATICS, 2,2,4,6,6-PENTAMETHYLHEPTAN), 3, III

SECTION 15: Regulatory information**· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

· Labelling according to Regulation (EC) No 1272/2008 GHS label elements
 · Directive 2012/18/EU
 · Named dangerous substances - ANNEX I None of the ingredients is listed.
 · Seveso category P5c FLAMMABLE LIQUIDS
 · Qualifying quantity (tonnes) for the application of lower-tier requirements 5,000 t
 · Qualifying quantity (tonnes) for the application of upper-tier requirements 50,000 t
 · REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 69

· DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

None of the ingredients is listed.

· REGULATION (EU) 2019/1148

· Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

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· Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

· Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.

· Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

None of the ingredients is listed.

· National regulations:

· Information about limitation of use: Employment restrictions concerning juveniles must be observed.

· Waterhazard class: Water hazard class 2 (Self-assessment): hazardous for water.

· Substances of very high concern (SVHC) according to REACH, Article 57

None of the ingredients is listed.

· VOC EU 432.1 g/l

· **15.2 Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing SDS: Laboratory

· Date of previous version: 01.03.2023

· Version number of previous version: 4

· Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 ICAO: International Civil Aviation Organisation
 ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 DNEL: Derived No-Effect Level (REACH)
 PNEC: Predicted No-Effect Concentration (REACH)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 SVHC: Substances of Very High Concern
 vPvB: very Persistent and very Bioaccumulative
 ATE: Acute toxicity estimate values
 Flam. Liq. 2: Flammable liquids – Category 2
 Flam. Liq. 3: Flammable liquids – Category 3
 Acute Tox. 3: Acute toxicity – Category 3
 Skin Irrit. 2: Skin corrosion/irritation – Category 2
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1
 Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 STOT SE 1: Specific target organ toxicity (single exposure) – Category 1
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
 Asp. Tox. 1: Aspiration hazard – Category 1
 Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
 Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3
 Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4