

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.04.2019

Version number 9

Revision: 15.04.2019

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

### 1.1 Product identifier

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

Article number: 11966

### 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

<p>Manufacturer/Supplier:</p>	<p>AKEMI chemisch technische Spezialfabrik GmbH Lechstrasse 28 D 90451 Nürnberg</p>	<p>Tel. +49(0)911-642960 Fax. +49(0)911-644456 e-mail info@akemi.de</p>
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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.  
+44 (171) 635 91 91  
National Poison Inform. Centre  
Medical Toxicology Unit  
Avalonley Road  
London SE14 5ER

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 3      H226 Flammable liquid and vapour.



GHS08 health hazard

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

Aquatic Chronic 4      H413 May cause long lasting harmful effects to aquatic life.

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

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

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· Hazard pictograms



GHS02 GHS08

· Signal word

Danger

· Hazard-determining components of labelling:

Hydrocarbons, C11-C12, Isoalkanes, <2% aromatics  
 Naphtha (petroleum), heavy alkylate  
 Hydrocarbons, C11-C13, Isoalkanes, <2% aromatics  
 Hydrocarbons, C11-C14 isoalkanes, cycloalkanes, <2% aromatics

· Hazard statements

H226 Flammable liquid and vapour.  
 H304 May be fatal if swallowed and enters airways.  
 H413 May cause long lasting harmful effects to aquatic life.

· Precautionary statements

P101 If medical advice is needed, have product container or label at hand.  
 P102 Keep out of reach of children.  
 P103 Read label before use.  
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P261 Avoid breathing vapours.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves / eye protection.  
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.  
 P331 Do NOT induce vomiting.  
 P302+P352 IF ON SKIN: Wash with plenty of water.  
 P304+P312 IF INHALED: Call a POISON CENTER/doctor if you feel unwell.  
 P403+P235 Store in a well-ventilated place. Keep cool.  
 P405 Store locked up.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Additional information:

EUH066 Repeated exposure may cause skin dryness or cracking.

· **2.3 Other hazards**

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

### SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterisation: Mixtures**

· Description: Mixture: consisting of the following components.

· Dangerous components:

EC number: 918-167-1 Reg.nr.: 01-2119472146-39-xxxx	Hydrocarbons, C11-C12, Isoalkanes, <2% aromatics Asp. Tox. 1, H304 Aquatic Chronic 4, H413	12.5-25%
CAS: 64741-65-7 EINECS: 265-067-2 Index number: 649-275-00-4 Reg.nr.: 01-2119472146-39	Naphtha (petroleum), heavy alkylate Flam. Liq. 3, H226 Asp. Tox. 1, H304 Aquatic Chronic 4, H413	12.5-25%
CAS: 123-86-4 EINECS: 204-658-1 Index number: 607-025-00-1 Reg.nr.: 01-2119485493-29	n-butyl acetate Flam. Liq. 3, H226 STOT SE 3, H336	12.5-25%

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EC number: 920-901-0 Reg.nr.: 01-2119456810-40-xxxx	Hydrocarbons, C11-C13, Isoalkanes, <2% aromatics ☠ Asp. Tox. 1, H304	<12.5%
CAS: 34590-94-8 EINECS: 252-104-2 Reg.nr.: 01-2119450011-60-xxxx	Dipropylene glycol monomethyl ether substance with a Community workplace exposure limit	<10%

· Additional information: For the wording of the listed hazard phrases refer to section 16.

**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

**· Information for doctor:**

Symptoms in intoxication with (aromatic) hydrocarbons (dosis letalis about 30 g)  
a) In acute intoxication: headache, dizziness, euphoria, gastro-intestinal dysfunction, state of excitement, coma.  
b) In chronic intoxication: myelotoxic damage, fatigue, dizziness, emaciation, cardiac palpitation after physical exercise, leucopenia, anemia, leukosis.  
Therapy in hydrocarbons intoxication: In case of inhalation provision of fresh air; in case of peroral intake administration of Carbo medicinalis; only after intubation conduct of gastrolavage in application of Carbo medicinalis; in case of cramps administration of Diazepam 20 mg intravenously.  
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: CO<sub>2</sub>, 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.

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- 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).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **6.4 Reference to other sections**                      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

- Additional information about design of technical facilities:                      No further data; see item 7.

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**8.1 Control parameters**

· Ingredients with limit values that require monitoring at the workplace:

**123-86-4 n-butyl acetate**

WEL	Short-term value: 966 mg/m <sup>3</sup> , 200 ppm
	Long-term value: 724 mg/m <sup>3</sup> , 150 ppm

**34590-94-8 Dipropylene glycol monomethyl ether**

WEL	Long-term value: 308 mg/m <sup>3</sup> , 50 ppm
	Sk

· DNELs

**123-86-4 n-butyl acetate**

Oral	DNEL (Kurzzeit-akut)	2 mg/kg bw/day (BEV)
	DNEL (Langzeit-wiederholt)	2 mg/kg bw/day (BEV)
Dermal	DNEL (Kurzzeit-akut)	11 mg/kg bw/day (ARB) 6 mg/kg bw/day (BEV)
	DNEL (Langzeit-wiederholt)	11 mg/kg bw/day (ARB) 6 mg/kg bw/day (BEV)
Inhalative	DNEL (Kurzzeit-akut)	600 mg/m <sup>3</sup> Air (ARB) 300 mg/m <sup>3</sup> Air (BEV)
	DNEL (Langzeit-wiederholt)	300 mg/m <sup>3</sup> Air (ARB) 35.7 mg/m <sup>3</sup> Air (BEV)

**34590-94-8 Dipropylene glycol monomethyl ether**

Oral	DNEL (Langzeit-wiederholt)	1.67 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	65 mg/kg bw/day (ARB) 15 mg/kg bw/day (BEV)
	DNEL (Langzeit-wiederholt)	310 mg/m <sup>3</sup> Air (ARB) 37.2 mg/m <sup>3</sup> Air (BEV)

· PNECs

**123-86-4 n-butyl acetate**

PNEC (wässrig)	35.6 mg/l (KA)
	0.018 mg/l (MW)
	0.18 mg/l (SW)
	0.36 mg/l (WAS)
PNEC (fest)	0.0903 mg/kg Trockengew (BO)
	0.0981 mg/kg Trockengew (MWS)
	0.981 mg/kg Trockengew (SWS)

**34590-94-8 Dipropylene glycol monomethyl ether**

PNEC (wässrig)	4,168 mg/l (KA)
	1.9 mg/l (MW)
	19 mg/l (SW)
PNEC (fest)	2.74 mg/kg Trockengew (BO)
	7.02 mg/kg Trockengew (MWS)
	70.2 mg/kg Trockengew (SWS)

· Additional information: The lists valid during the making were used as basis.

**8.2 Exposure controls**

· Personal protective equipment:

· General protective and hygienic measures:

Do not eat, drink, smoke or sniff while working.

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· Respiratory protection:

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.

· Protection of hands:

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.  
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:



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  
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. 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>).

· 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)

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|---|--|
| <ul style="list-style-type: none"> <li>· <u>As protection from splashes gloves made of the following materials are suitable:</u></li> <li>· <u>Not suitable are gloves made of the following materials:</u></li> <li>· <u>Eye protection:</u></li> <li>· <u>Body protection:</u></li> </ul> | <p>Butyl rubber, BR</p> <p>Nitrile rubber, NBR<br/>Camatril (KCL, 730, 731, 732, 733)<br/>Chloroprene rubber, CR<br/>Camapren (KCL, Art_No. 720, 722, 726)<br/>Butoject (KCL, Art_No. 897, 898)<br/>Fluorocarbon rubber (Viton)<br/>Vitoject (KCL, Art_No. 890)<br/>Butoject (KCL, Art_No. 897, 898)<br/>Butyl rubber, BR</p> <p>Natural rubber, NR<br/>Leather gloves<br/>Strong material gloves</p> <p>Goggles recommended during refilling<br/>Protective work clothing</p> |
|---|--|

### SECTION 9: Physical and chemical properties

#### · 9.1 Information on basic physical and chemical properties

##### · General Information

##### · Appearance:

Form:	Fluid
Colour:	Yellowish

· Odour:	Mild
· Odour threshold:	Not determined.

· pH-value:	Not applicable
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##### · Change in condition

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	180 °C

· Flash point:	62 °C
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· Flammability (solid, gas):	Not applicable.
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· Ignition temperature:	270 °C
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· <u>Decomposition temperature:</u>	Not determined.
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· <u>Auto-ignition temperature:</u>	Product is not selfigniting.
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· <u>Explosive properties:</u>	Product does not present an explosion hazard.
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##### · Explosion limits:

Lower:	0.7 Vol %
Upper:	10.4 Vol %

· <u>Vapour pressure at 20 °C:</u>	10.7 hPa
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· Density at 20 °C:	0.88 g/cm <sup>3</sup>
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

· <u>Solubility in / Miscibility with water:</u>	Not miscible or difficult to mix.
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· <u>Partition coefficient: n-octanol/water:</u>	Not determined.
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· <u>Viscosity:</u>	
Dynamic:	Not determined.
Kinematic:	Not determined.
· <u>Solvent content:</u>	
Organic solvents:	74.8 %
Solids content:	7.5 %
· <b>9.2 Other information</b>	No further relevant information available.

**SECTION 10: Stability and reactivity**

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

**SECTION 11: Toxicological information**

· <b>11.1 Information on toxicological effects</b>	
· <u>Acute toxicity</u>	Based on available data, the classification criteria are not met.

· LD/LC50 values relevant for classification:

**ATE (Acute Toxicity Estimates)**

Inhalative	LC50/4 h	>38.5 mg/l (rat)
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**Hydrocarbons, C11-C12, Isoalkanes, <2% aromatics**

Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit)

**64741-65-7 Naphtha (petroleum), heavy alkylate**

Oral	LD50	>6,000 mg/kg (rat)
Dermal	LD50	>3,000 mg/kg (rbt)
Inhalative	LC50/4 h	>7.8 mg/l (rat)

**123-86-4 n-butyl acetate**

Oral	LD50	10,800 mg/kg (rat) (OECD 423)
Dermal	LD50	>17,600 mg/kg (rabbit) (OECD 402)
Inhalative	LC50/4 h	>21 mg/l (rat) (OECD 403)
	LC50	390 mg/m <sup>3</sup> (rat)
	LC50/48h	64 mg/l (Brachydanio rerio)

**Hydrocarbons, C11-C13, Isoalkanes, <2% aromatics**

Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit)
	LD50	>5,000 mg/kg (rabbit)
Inhalative	LC50/4h	2.5 mg/m <sup>3</sup> (rat)
	LC50/8h	>5,000 ppm (rat)

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	NOAEC	1,000 mg/l (rat)
<b>34590-94-8 Dipropylene glycol monomethyl ether</b>		
Oral	LD50	5,180 mg/kg (rat)
	NOAEL	5,000 mg/kg (rat)
Dermal	LD50	>19,000 mg/kg (rabbit)
		9,500 mg/kg (rat)
	NOEL	2,850 mg/kg (rabbit)
Inhalative	LC50/4 h	>50 mg/l (rat)
<b>Hydrocarbons, C11-C14 isoalkanes, cycloalkanes, &lt;2% aromatics</b>		
Oral	LD50	>5,000 mg/kg (rat)
	NOAEL-Werte	>5,000 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit)
Inhalative	NOAEL	>10,400 mg/m <sup>3</sup> (rat)

- Primary irritant effect:
- Skin corrosion/irritation Based on available data, the classification criteria are not met.
- Serious eye damage/irritation Based on available data, the classification criteria are not met.
- Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
- CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
- Germ cell mutagenicity Based on available data, the classification criteria are not met.
- 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.

**SECTION 12: Ecological information**· **12.1 Toxicity**

- 
- Aquatic toxicity:

**Hydrocarbons, C11-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)
NOELR/21d	1 mg/l (daphnia magna)

**123-86-4 n-butyl acetate**

EC50/24h	72.8 mg/l (daphnia magna) (DIN 38412)
EC50/96h	320 mg/l (green alge)
LC50/24h	205 mg/l (daphnia magna)
IC50/72h	648 mg/l (Desmodesmus subspicatus)
EC10/18h	959 mg/l (pseudomonas putida)
EC50/48h	44 mg/l (daphnia magna)
EC50/16h	959 mg/l (pseudomonas putida)
NOEC	200 mg/kg (Desmodesmus subspicatus)
EC50/72h	647.7 mg/l (Desmodesmus subspicatus) (Zellvermehrungshemmtest)
	674 mg/l (Scenedesmus subspicatus)
LC50/96h	62 mg/l (Danio rerio.)
	81 mg/l (piscis)

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	100 mg/l (Iepomis macrochirus) 62 mg/l (Leuciscus idus) (DIN 38412) 18 mg/l (pimephales promelas) (OECD 203)
<b>Hydrocarbons, C11-C13, Isoalkanes, &lt;2% aromatics</b>	
EC50/48h	>1,000 mg/l (daphnia magna)
ErC50/72h	>1,000 mg/l (Pseudokirchneriella subcapitata)
EL0/48h	1,000 mg/l (daphnia magna)
LL0/96h	1,000 mg/l (Oncorhynchus mykiss)
NOELR/72h	1,000 mg/l (Pseudokirchneriella subcapitata)
EC50/72h	>1,000 mg/l (green alge)
LC50/96h	>1,000 mg/l (Oncorhynchus mykiss)
<b>34590-94-8 Dipropylene glycol monomethyl ether</b>	
EC50/48h	1,919 mg/l (daphnia magna)
EC50/48h	1,919 mg/l (daphnia magna)
EC50/72h	>969 mg/l (green alge)
LC50/96h	>1,000 mg/l (piscis) >10,000 mg/l (Pimephales promelas)
LC50/72h	>150 mg/l (piscis)
<b>Hydrocarbons, C11-C14 isoalkanes, cycloalkanes, &lt;2% aromatics</b>	
EL50/72h	>1,000 mg/l (green alge)
LL50/96h	>1,000 mg/l (piscis)
NOELR/21d	1 mg/l (daphnia magna)
NOELR/28d	0.103 mg/l (piscis)

· **12.2 Persistence and degradability**

No further relevant information available.

· **12.3 Bioaccumulative potential**

No further relevant information available.

· **12.4 Mobility in soil**

No further relevant information available.

· Additional ecological information:

· General notes:

Do not allow product to reach ground water, water course or sewage system.  
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

· **12.5 Results of PBT and vPvB assessment**

· PBT: Not applicable.

· vPvB: Not applicable.

· **12.6 Other adverse effects**

No further relevant information available.

### 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

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**SECTION 14: Transport information****· 14.1 UN-Number**

· ADR, IMDG, IATA UN1993

**· 14.2 UN proper shipping name**

· ADR 1993 FLAMMABLE LIQUID, N.O.S. (BUTYL ACETATES, DIESEL FUEL)

· IMDG, IATA FLAMMABLE LIQUID, N.O.S. (BUTYL ACETATES, DIESEL FUEL)

**· 14.3 Transport hazard class(es)**

· ADR



· Class 3 (F1) Flammable liquids.

· Label 3

· IMDG, IATA



· Class 3 Flammable liquids.

· Label 3

**· 14.4 Packing group**

· ADR, IMDG, IATA III

**· 14.5 Environmental hazards:**

· Marine pollutant: No

**· 14.6 Special precautions for user**

Warning: Flammable liquids.

· Danger code (Kemler): 30

· EMS Number: F-E, S-E

· Stowage Category A

**· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

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

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# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.04.2019

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Revision: 15.04.2019

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

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· UN "Model Regulation":	UN 1993 FLAMMABLE LIQUID, N.O.S. (BUTYL ACETATES, DIESEL FUEL), 3, III
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## 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
- National regulations:
- Information about limitation of use: Employment restrictions concerning juveniles must be observed.
- Waterhazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
- VOC EU 664.6 g/l
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## SECTION 16: Other information

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.

- Relevant phrases H226 Flammable liquid and vapour.  
H304 May be fatal if swallowed and enters airways.  
H336 May cause drowsiness or dizziness.  
H413 May cause long lasting harmful effects to aquatic life.
- Recommended restriction of use refer to Technical Data Sheet (TDS)
- Department issuing SDS: Laboratory
- Contact: Dieter Zimmermann
- 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 européen sur le transport 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
  - vPvB: very Persistent and very Bioaccumulative
  - Flam. Liq. 3: Flammable liquids – Category 3
  - STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
  - Asp. Tox. 1: Aspiration hazard – Category 1

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· \* Data compared to the previous version altered.

Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4

Adaptation in accordance with REACH directive 1907/2006/EC

GB