

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 08.03.2022

Version number 2201 (replaces version 2101)

Revision: 08.03.2022

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

#### 1.1 Product identifier

Trade name: **Isotrep - Spray schwarz**

Article number: 5140-0862

#### 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

Lubricant

#### 1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: Manufacturer  
Graichen Produktions- und Vertriebs-GmbH  
Darmstädter Str. 127 - 129  
D-64625 Bensheim  
Tel.: +49(0)6251/73103  
Fax: +49(0)6251/77901  
e-mail: ehs@graichen-bensheim.de  
homepage: http://www.graichen.net

Further information obtainable from:

Environment protection department

#### 1.4 Emergency telephone number:

Advice centre for poisoning university Mainz phone +49(0)6131/19240  
or poison information: +49(0)700/GIFTINFO

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Aerosol 1 H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

#### 2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

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

Hazard pictograms



GHS02 GHS07

Signal word

Danger

Hazard-determining components of labelling:

Acetic ether

Hazard statements

H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

Precautionary statements

P102 Keep out of reach of children.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P211 Do not spray on an open flame or other ignition source.

P251 Do not pierce or burn, even after use.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P271 Use only outdoors or in a well-ventilated area.

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

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

Product contains: Reportable explosives precursors. Making available, introduction, possession and use according to Regulation (EU) 2019/1148, Article 9.  
Buildup of explosive mixtures possible without sufficient ventilation.

#### 2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

Description: Active substance with propellant  
Active agent + Propellant

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. Dangerous components:		
CAS: 115-10-6 EINECS: 204-065-8	dimethyl ether ⚠ Flam. Gas 1A, H220; Press. Gas (Comp.), H280	25 – 50%
CAS: 141-78-6 EINECS: 205-500-4	Acetic ether ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336, EUH066	25 – 50%
CAS: 123-86-4 EINECS: 204-658-1	Butyl acetate ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336, EUH066	2.5 – 10%
CAS: 9004-70-0	nitrocellulose solutions, with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose ⚠ Expl. 1.1, H201; Flam. Liq. 2, H225	2.5 – 10%
CAS: 67-63-0 EINECS: 200-661-7	propan-2-ol ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	2.5 – 10%
CAS: 71-36-3 EINECS: 200-751-6	butanol ⚠ Flam. Liq. 3, H226; ⚠ Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; STOT SE 3, H335-H336	2.5 – 10%
CAS: 64-17-5 EINECS: 200-578-6	ethanol ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319	< 2.5%

. 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: Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- . After inhalation: In case of unconsciousness place patient stably in side position for transportation. 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. If symptoms persist, consult a doctor.
- . After swallowing: Seek immediate medical advice.

#### . 4.2 Most important symptoms and effects, both acute and delayed

Breathing difficulty  
Dizziness  
Dizziness  
Danger of impaired breathing.

. Hazards

#### . 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

### 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. CO<sub>2</sub>, sand, extinguishing powder. Do not use water.

. For safety reasons unsuitable extinguishing agents: Full jet water

#### . 5.2 Special hazards arising from the substance or mixture

No further relevant information available.

#### . 5.3 Advice for firefighters

- . Protective equipment: Wear self-contained respiratory protective device.

### SECTION 6: Accidental release measures

#### . 6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation  
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.

#### . 6.3 Methods and material for containment and cleaning up:

Ensure adequate ventilation.  
Do not flush with water or aqueous cleansing agents

#### . 6.4 Reference to other sections

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

Open and handle receptacle with care.

. Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.  
Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.

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Do not spray onto a naked flame or any incandescent material.

**7.2 Conditions for safe storage, including any incompatibilities**

- Requirements to be met by storerooms and receptacles: Store in a cool location.  
Observe official regulations on storing packagings with pressurised containers.
- Information about storage in one common storage facility: Store away from foodstuffs.
- Further information about storage conditions: Keep container tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.  
Protect from heat and direct sunlight.
- 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:

**CAS: 115-10-6 dimethyl ether**

WEL	Short-term value: 958 mg/m <sup>3</sup> , 500 ppm
	Long-term value: 766 mg/m <sup>3</sup> , 400 ppm

**CAS: 141-78-6 Acetic ether**

WEL	Short-term value: 1468 mg/m <sup>3</sup> , 400 ppm
	Long-term value: 734 mg/m <sup>3</sup> , 200 ppm

**CAS: 123-86-4 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

**CAS: 67-63-0 propan-2-ol**

WEL	Short-term value: 1250 mg/m <sup>3</sup> , 500 ppm
	Long-term value: 999 mg/m <sup>3</sup> , 400 ppm

**CAS: 71-36-3 butanol**

WEL	Short-term value: 154 mg/m <sup>3</sup> , 50 ppm
Sk	

**CAS: 64-17-5 ethanol**

WEL	Long-term value: 1920 mg/m <sup>3</sup> , 1000 ppm
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DNELs

**CAS: 115-10-6 dimethyl ether**

Inhalative	DNEL Long-term - systemic effects	1,894 mg/m <sup>3</sup> (---) 471 mg/m <sup>3</sup> (Consumers (Verbraucher)) 1,894 mg/m <sup>3</sup> (Workers (Arbeitnehmer))
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**CAS: 141-78-6 Acetic ether**

Oral	DNEL Long-term - systemic effects	4.5 mg/kg bw/day (general (Allgemeinbevölkerung))
Dermal	DNEL Long-term - systemic effects	37 mg/kg bw/day (general (Allgemeinbevölkerung)) 63 mg/kg bw/day (Workers (Arbeitnehmer))
Inhalative	DNEL Acute - systemics effects	734 mg/m <sup>3</sup> (general (Allgemeinbevölkerung)) 1,468 mg/m <sup>3</sup> (Workers (Arbeitnehmer))
	DNEL Acute - local effects	734 mg/m <sup>3</sup> (Consumers (Verbraucher)) 1,468 mg/m <sup>3</sup> (Workers (Arbeitnehmer))
	DNEL Long-term - systemic effects	367 mg/m <sup>3</sup> (general (Allgemeinbevölkerung)) 734 mg/m <sup>3</sup> (Workers (Arbeitnehmer))
	DNEL Long-term - local effects	367 mg/m <sup>3</sup> (general (Allgemeinbevölkerung)) 734 mg/m <sup>3</sup> (Workers (Arbeitnehmer))

**CAS: 123-86-4 Butyl acetate**

Oral	DNEL Acute - systemics effect	2 mg/kg bw/day (general (Allgemeinbevölkerung))
	DNEL Long-term - systemic effects	2 mg/kg bw/day (general (Allgemeinbevölkerung))
Dermal	DNEL Acute - systemic effects	6 mg/kg bw/day (general (Allgemeinbevölkerung)) 11 mg/kg bw/day (Workers (Arbeitnehmer))
	DNEL Long-term - systemic effects	6 mg/kg bw/day (general (Allgemeinbevölkerung)) 11 mg/kg bw/day (Workers (Arbeitnehmer))
Inhalative	DNEL Acute - systemics effects	300 mg/m <sup>3</sup> (general (Allgemeinbevölkerung)) 600 mg/m <sup>3</sup> (Workers (Arbeitnehmer))
	DNEL Acute - local effects	300 mg/m <sup>3</sup> (general (Allgemeinbevölkerung)) 600 mg/m <sup>3</sup> (Workers (Arbeitnehmer))
	DNEL Long-term - systemic effects	35.7 mg/m <sup>3</sup> (general (Allgemeinbevölkerung)) 300 mg/m <sup>3</sup> (Workers (Arbeitnehmer))
	DNEL Long-term - local effects	35.7 mg/m <sup>3</sup> (general (Allgemeinbevölkerung))

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		300 mg/m <sup>3</sup> (Workers (Arbeitnehmer))
<b>CAS: 67-63-0 propan-2-ol</b>		
Oral	DNEL Long-term - systemic effects	26 mg/kg bw/day (general (Allgemeinbevölkerung))
Dermal	DNEL Long-term - systemic effects	319 mg/kg bw/day (general (Allgemeinbevölkerung)) 888 mg/kg bw/day (Workers (Arbeitnehmer))
Inhalative	DNEL Long-term - systemic effects	89 mg/m <sup>3</sup> (general (Allgemeinbevölkerung)) 500 mg/m <sup>3</sup> (employee / Arbeitnehmer) 500 mg/m <sup>3</sup> (Workers (Arbeitnehmer))
<b>CAS: 71-36-3 butanol</b>		
Oral	DNEL Long-term - systemic effects	3.125 mg/kg bw/day (general (Allgemeinbevölkerung))
Inhalative	DNEL Long-term - local effects	55 mg/m <sup>3</sup> (general (Allgemeinbevölkerung)) 310 mg/m <sup>3</sup> (Workers (Arbeitnehmer))
<b>CAS: 64-17-5 ethanol</b>		
Oral	DNEL Long-term - systemic effects	87 mg/kg bw/day (general (Allgemeinbevölkerung))
Dermal	DNEL Long-term - systemic effects	206 mg/kg bw/day (general (Allgemeinbevölkerung)) 343 mg/kg bw/day (Workers (Arbeitnehmer))
Inhalative	DNEL Acute - local effects	950 mg/m <sup>3</sup> (general (Allgemeinbevölkerung)) 1,900 mg/m <sup>3</sup> (Workers (Arbeitnehmer))
	DNEL Long-term - systemic effects	114 mg/m <sup>3</sup> (general (Allgemeinbevölkerung)) 950 mg/m <sup>3</sup> (Workers (Arbeitnehmer))
. PNECs		
<b>CAS: 115-10-6 dimethyl ether</b>		
PNEC Soil (Boden)		0.045 mg/kg
PNEC fresh water sediment (Süßwassersediment)		0.681 mg/kg
PNEC fresh water (Süßwasser)		0.155 mg/l
PNEC marine water sediment		0.069 mg/kg
PNEC Marine water		0.016 mg/l
PNEC-STP		160 mg/l
<b>CAS: 141-78-6 Acetic ether</b>		
PNEC Soil (Boden)		0.24 mg/kg
PNEC fresh water sediment (Süßwassersediment)		1.25 mg/kg
PNEC fresh water (Süßwasser)		0.26 mg/l
PNEC marine water sediment		0.125 mg/kg
PNEC Marine water		0.026 mg/l
PNEC-STP		650 mg/l
<b>CAS: 123-86-4 Butyl acetate</b>		
PNEC Soil (Boden)		0.0903 mg/kg
PNEC fresh water sediment (Süßwassersediment)		0.981 mg/kg
PNEC fresh water (Süßwasser)		0.18 mg/l
PNEC marine water sediment		0.0981 mg/kg
PNEC Marine water		0.018 mg/l
PNEC-STP		35.6 mg/l
<b>CAS: 67-63-0 propan-2-ol</b>		
PNEC Soil (Boden)		28 mg/kg
PNEC fresh water sediment (Süßwassersediment)		552 mg/kg
PNEC fresh water (Süßwasser)		140.9 mg/l
PNEC marine water sediment		552 mg/kg
PNEC Marine water		140.9 mg/l
PNEC-STP		2,251 mg/l
<b>CAS: 71-36-3 butanol</b>		
PNEC Soil (Boden)		0.015 mg/kg
PNEC fresh water sediment (Süßwassersediment)		0.178 mg/kg
PNEC fresh water (Süßwasser)		0.082 mg/l
PNEC marine water sediment		0.0178 mg/kg
PNEC Marine water		0.0082 mg/l
PNEC-STP		2,476 mg/l
<b>CAS: 64-17-5 ethanol</b>		
PNEC Soil (Boden)		0.63 mg/kg
PNEC fresh water sediment (Süßwassersediment)		3.6 mg/kg
PNEC fresh water (Süßwasser)		0.96 mg/l
PNEC marine water sediment		2.9 mg/kg
PNEC Marine water		0.79 mg/l
PNEC-STP		580 mg/l

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Additional information:	The lists valid during the making were used as basis.
<b>8.2 Exposure controls</b>	
Appropriate engineering controls	No further data; see item 7.
Individual protection measures, such as personal protective equipment	
General protective and hygienic measures:	Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing Wash hands before breaks and at the end of work. Do not inhale gases / fumes / aerosols. Avoid contact with the eyes. Avoid contact with the eyes and skin.
Respiratory protection:	Filter AX
Hand protection	Solvent resistant gloves 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) Nitrile rubber, NBR 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 $\leq 0,7$ mm 480min (8h) EN374 The determined penetration times according to EN 16523-1:2015 are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended. The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
Eye/face protection	Tightly sealed goggles

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

General Information	
Colour:	Black
Odour:	Characteristic
Odour threshold:	Not determined.
Boiling point or initial boiling point and boiling range	-24.8 °C (CAS: 115-10-6 dimethyl ether)
Flammability	Not applicable.
Lower and upper explosion limit	
Lower:	2.1 Vol % (CAS: 141-78-6 Acetic ether)
Upper:	24.4 Vol % (CAS: 115-10-6 dimethyl ether)
Flash point:	-42.2 °C (CAS: 115-10-6 dimethyl ether)
Ignition temperature:	240 °C (CAS: 115-10-6 dimethyl ether)
Decomposition temperature:	Not determined.
pH	Not determined.
Viscosity:	
Dynamic:	Not determined.
Solubility	
water:	Not miscible or difficult to mix.
Partition coefficient n-octanol/water (log value)	Not determined.
Vapour pressure at 20 °C:	5,130 hPa (CAS: 115-10-6 dimethyl ether)
Density and/or relative density	
Density at 20 °C:	0.8227 g/cm <sup>3</sup>
Relative density	Not determined.
Vapour density	Not determined.

### 9.2 Other information

Appearance:	
Form:	Aerosol
Important information on protection of health and environment, and on safety.	
Auto-ignition temperature:	Product is not selfigniting.
Explosive properties:	Product is not explosive. However, formation of explosive air/ vapour mixtures are possible.
Solvent content:	
Organic solvents:	91.3 %
VOC (EC)	750.9 g/l
VOC (EU) (%)	91.3 %
Solids content:	8.7 %
Change in condition	
Evaporation rate	Not applicable.

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. Information with regard to physical hazard classes

. Explosives

Void

. Flammable gases

Void

. Aerosols

Extremely flammable aerosol. Pressurised container: May burst if heated.

. Oxidising gases

Void

. Gases under pressure

Void

. Flammable liquids

Void

. Flammable solids

Void

. Self-reactive substances and mixtures

Void

. Pyrophoric liquids

Void

. Pyrophoric solids

Void

. Self-heating substances and mixtures

Void

. Substances and mixtures, which emit flammable gases in contact with water

Void

. Oxidising liquids

Void

. 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 according to specifications.

. 10.3 Possibility of hazardous reactions

No dangerous reactions known.

. 10.4 Conditions to avoid

No further relevant information available.

. 10.5 Incompatible materials:

No further relevant information available.

. 10.6 Hazardous decomposition products:

Hazardous thermal decomposition products may include: Formaldehyde, Carbon dioxide, Carbon monoxide, Methanol

**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	30,569 mg/kg
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**CAS: 115-10-6 dimethyl ether**

Inhalative LC50/4h 164,000 mg/l (rat, male)

**CAS: 141-78-6 Acetic ether**

Oral LD50 6,100 mg/kg (rat)

Dermal LD50 4,935 mg/kg (rabbit)

Inhalative LD50 &gt; 20,000 mg/kg (rabbit)

LC50/4h 1,600 mg/l (rat)

LC50/1h 200 mg/l (rat)

**CAS: 123-86-4 Butyl acetate**

Oral LD50 10,760 mg/kg (rat) (Testmethod)

Dermal LD50 14,112 mg/kg (rabbit)

Inhalative LC50/4h &gt; 23.4 mg/l (rat) (Acute Inhalation Toxicity)

**CAS: 9004-70-0 nitrocellulose solutions, with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose**

Oral LD50 &gt; 5,000 mg/kg (rat)

**CAS: 67-63-0 propan-2-ol**

Oral LD50 5,840 mg/kg (rat) (Acute Oral Toxicity)

Dermal LD50 12,870 mg/kg (rab) (Acute Dermal Toxicity)

Inhalative LC50/4h 72.6 mg/l (rat)

LC50/6h &gt; 25 mg/l (rat) (Acute Inhalation Toxicity)

**CAS: 71-36-3 butanol**

Oral LD50 790 mg/kg (rat)

Dermal LD50 3,400 mg/kg (rabbit)

Inhalative LC50/4h 8,000 mg/l (rat)

**CAS: 64-17-5 ethanol**

Oral LD50 10,470 mg/kg (rat) (Acute Oral Toxicity)

Dermal LD50 &gt; 2,000 mg/kg (rabbit) (Acute Dermal Toxicity)

Inhalative LC50/4h 51 mg/l (rat) (Acute Inhalation Toxicity)

## . Skin corrosion/irritation

**CAS: 141-78-6 Acetic ether**

Ätz-/Reizwirkung auf die Haut (24h) (rabbit) (Acute Dermal Irritation/Corrosion)

**CAS: 123-86-4 Butyl acetate**

Ätz-/Reizwirkung auf die Haut (rabbit) (Acute Dermal Irritation/Corrosion)

**CAS: 67-63-0 propan-2-ol**

Ätz-/Reizwirkung auf die Haut (4h) (rabbit) (Acute Dermal Irritation/Corrosion)

**CAS: 71-36-3 butanol**

Ätz-/Reizwirkung auf die Haut (2h) (rabbit)

**CAS: 64-17-5 ethanol**

Ätz-/Reizwirkung auf die Haut (rabbit) (Acute Dermal Irritation/Corrosion)

## . Serious eye damage/irritation

**CAS: 141-78-6 Acetic ether**

Schwere Augenschädigung/-reizung (rabbit) (Acute Eye Irritation/Corrosion)

**CAS: 123-86-4 Butyl acetate**

Schwere Augenschädigung/-reizung (rabbit) (Acute Eye Irritation/Corrosion)

**CAS: 67-63-0 propan-2-ol**

Schwere Augenschädigung/-reizung (rabbit) (Acute Eye Irritation/Corrosion)

**CAS: 71-36-3 butanol**

Schwere Augenschädigung/-reizung (rabbit) (Acute Eye Irritation/Corrosion)

**CAS: 64-17-5 ethanol**

Schwere Augenschädigung/-reizung (rabbit) (Acute Eye Irritation/Corrosion)

## . 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.

## . Carcinogenicity

Based on available data, the classification criteria are not met.

## . Reproductive toxicity

**CAS: 115-10-6 dimethyl ether**

NOAEL, Teratog. 47,106 mg/kg (rat) (Reproduktionstoxische Effekte)

**CAS: 67-63-0 propan-2-ol**

Oral NOAEL, Parents 500 mg/kg (rat) (Two-Generation Reproduction Toxicity)

**CAS: 71-36-3 butanol**

Oral NOAEL, Parents mg/kg (rat) (Two-Generation Reproduction Toxicity)

## . STOT-single exposure

May cause drowsiness or dizziness.

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. STOT-repeated exposure		
<b>CAS: 141-78-6 Acetic ether</b>		
STOT RE	1.28 mg/kg/day (rat)	
<b>CAS: 67-63-0 propan-2-ol</b>		
STOT RE	mg/kg/day (rat)	
. Aspiration hazard Based on available data, the classification criteria are not met.		
. Additional toxicological information:		
<b>CAS: 115-10-6 dimethyl ether</b>		
Inhalative	NOAEL, 6h/d 5d/w	47,106 mg/m <sup>3</sup> (rat) (Cancerogene Wirkung)
	NOAEL, 6h/d, 5d/w	47,106 mg/m <sup>3</sup> (rat) (Reproduktionstoxische Effekte)
<b>CAS: 141-78-6 Acetic ether</b>		
Oral	NOAEL (subchronisch, 90d)	900 mg/kg (rat)
	NOAEL, parents	1,500 mg/kg KG/day (rat)
<b>CAS: 123-86-4 Butyl acetate</b>		
Oral	NOAEL (subchronisch, 90d)	125 mg/kg (rat)
<b>CAS: 67-63-0 propan-2-ol</b>		
	NOAEL, maternal	400 mg/kg KG/day (rat)
	NOAEL, parents	500 mg/kg KG/day (Two-Generation Reproduction Toxicity)
		853 mg/kg KG/day (rat) (One-Generation Reproduction Toxicity Study)
<b>. 11.2 Information on other hazards</b>		
. Endocrine disrupting properties		
None of the ingredients is listed.		

## SECTION 12: Ecological information

### . 12.1 Toxicity

#### . Aquatic toxicity:

#### **CAS: 115-10-6 dimethyl ether**

EC50 (48h)	> 4,400 mg/l (daphnia magna/gr. Wasserfloh)
EC50 (72h)	mg/l (Algae)
EC50 (96h)	155 mg/l (Algae)
LC50 (96h)	4,100 mg/l (Guppy)

#### **CAS: 141-78-6 Acetic ether**

EC10 (18h)	2,900 mg/l
EC50 (48h)	> 150 mg/l (---)
	164 mg/l (Daphnie)
EC50 (96h)	> 2,000 mg/l (Pseudokirchneriella subcapitata - Algen)
LC50 (48h)	270 mg/l (Leuciscus idus (Goldorfe))
LC50 (96h)	> 200 mg/l (Fish)
NOEC (21d)	2.4 mg/l (daphnia magna/gr. Wasserfloh)

#### **CAS: 123-86-4 Butyl acetate**

EC50 (48h)	44 mg/l (Daphnie) (Daphnia sp. Acute Immobilisation Test)
EC50 (72h)	674.7 mg/l (Desmodesmus subspicatus/Grünalge) (Freshwater Alga and Cyanobacteria, Growth Inhibiti)
LC50 (96h)	18 mg/l (Pimephales promelas (fettköpf. Ellritze))
NOEC (21d)	23.2 mg/l (daphnia magna/gr. Wasserfloh) (Daphnia magna Reproduction Test)
LC50 (40h)	356 mg/l (Tetrahymena pyriformis)

#### **CAS: 9004-70-0 nitrocellulose solutions, with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose**

EC50 (48h)	> 1,000 mg/l (daphnia magna/gr. Wasserfloh) (Daphnia sp. Acute Immobilisation Test)
LC50 (96h)	> 1,000 mg/l (Oncorhynchus mykiss) (Fish, Acute Toxicity Test)
EC0 (30min)	1,000 mg/l
ErC50 (72)	> 90,000 mg/l (Scenedesmus subspicatus) (Freshwater Alga and Cyanobacteria, Growth Inhibiti)

#### **CAS: 67-63-0 propan-2-ol**

EC50	> 100 mg/l (Bacteria)
EC50 (48h)	> 100 mg/l (daphnia magna/gr. Wasserfloh)
EC50 (72h)	> 100 mg/l (Scenedesmus subspicatus)
EC50 (96h)	> 1,000 mg/l (Scenedesmus subspicatus) (Freshwater Alga and Cyanobacteria, Growth Inhibiti)
LC50 (24h)	9,714 mg/l (daphnia magna/gr. Wasserfloh) (Daphnia sp. Acute Immobilisation Test)
	9,640 mg/l (Pimephales promelas (fettköpf. Ellritze)) (Fish, Acute Toxicity Test)
LC50 (48h)	> 100 mg/l (Leuciscus idus (Goldorfe))
LC50 (96h)	> 9,640 – 10,000 mg/l (Pimephales promelas (fettköpf. Ellritze)) (Fish, Acute Toxicity Test)
LOEC (8d)	1,000 mg/l (Algae)
EC50 (3h)	> 1,000 mg/l (activated sludge) (Mikroorganismen/Wirkung auf Belebtschlamm)

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NOEC (21d)	30 mg/l (daphnia magna/gr. Wasserfloh) (Daphnia magna Reproduction Test)
NOEC (96h)	1,000 mg/l (Scenedesmus subspicatus) (Freshwater Alga and Cyanobacteria, Growth Inhibiti)
<b>CAS: 71-36-3 butanol</b>	
EC50 (48h)	1,328 mg/l (daphnia magna/gr. Wasserfloh) (Daphnia sp. Acute Immobilisation Test)
EC50 (96h)	225 mg/l (Pseudokirchneriella subcapitata - Algen) (Freshwater Alga and Cyanobacteria, Growth Inhibiti)
LC50 (96h)	1,376 mg/l (Pimephales promelas (fettköpf. Ellritze)) (Fish, Acute Toxicity Test)
EC10 (17h)	2,476 mg/l (Pseudomonas putida) (Test)
NOEC (21d)	4.1 mg/l (daphnia magna/gr. Wasserfloh) (Daphnia magna Reproduction Test)
NOEC (96h)	129 mg/l (Pseudokirchneriella subcapitata - Algen) (Freshwater Alga and Cyanobacteria, Growth Inhibiti)
<b>CAS: 64-17-5 ethanol</b>	
EC50	5,800 mg/l (Paramecium caudatum)
EC50 (24h)	858 mg/l (Artemia salina)
EC50 (7d)	> 5,000 mg/l (Algae) (Freshwater Alga and Cyanobacteria, Growth Inhibiti)
EC50 (48h)	9,268 – 14,221 mg/l (daphnia magna/gr. Wasserfloh) (Daphnia sp. Acute Immobilisation Test)
EC50 (72h)	275 mg/l (Chlorella vulgaris) (Freshwater Alga and Cyanobacteria, Growth Inhibiti)
LC50 (24h)	11,200 mg/l (Salmo gairdneri)
LC50 (48h)	5,012 mg/l (Ceriodaphnia dubia (Wasserfloh))
LC50 (96h)	13,000 mg/l (Oncorhynchus mykiss) (Fish, Acute Toxicity Test)
	14,200 mg/l (Pimephales promelas (fettköpf. Ellritze))
NOEC (10d)	2 mg/l (Daphnie)

**12.2 Persistence and degradability****CAS: 141-78-6 Acetic ether**

Biodegradability 28d | 100 % (Biodegradability)

**CAS: 123-86-4 Butyl acetate**

Biodegradability 28d | 100 % (aerob)

**CAS: 9004-70-0 nitrocellulose solutions, with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose**

Biodegradability 28d | &gt; 60 % (Biodegradability - CO2 Evolution Test)

**CAS: 67-63-0 propan-2-ol**

Biodegradability 30d | 70 – 84 % (aerob) ((Derterm. of the "Ready" Biodegr. Closed Bottle))

**CAS: 71-36-3 butanol**

Biodegradability 30d | 70 – 81 % (aerob) ((Derterm. of the "Ready" Biodegr. Closed Bottle))

**CAS: 64-17-5 ethanol**

Biodegradability | 80 – 85 % (aerob) (Biodegradability)

Biodegradability 28d | 97 % (Ready Biodegradability)

**12.3 Bioaccumulative potential****CAS: 115-10-6 dimethyl ether**

Log Kow | &lt; 4

**CAS: 141-78-6 Acetic ether**

Log Pow | 0.6 (Method)

**CAS: 123-86-4 Butyl acetate**

Log Pow | 2.3 (Partition Coefficient (n-octanol/water), HPLC Meth)

**CAS: 67-63-0 propan-2-ol**

Log Pow | 0.05

**CAS: 71-36-3 butanol**

Log Pow | 1 (Partition Coefficient (n-octanol/water), HPLC Meth)

**CAS: 64-17-5 ethanol**

Log Pow  
Log Kow  
BCF

0.66

**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**

Ecotoxicological effects:

**CAS: 115-10-6 dimethyl ether**

EC10 (72h) | &gt; 1,600 mg/l (Pseudomonas putida)

**CAS: 123-86-4 Butyl acetate**

EC10 (72h) | 295.5 mg/l (Desmodesmus subspicatus/Grünalge) (Freshwater Alga and Cyanobacteria, Growth Inhibiti)

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**CAS: 64-17-5 ethanol**

EC10 (72h) 11.5 mg/l (Paramecium caudatum) (Freshwater Alga and Cyanobacteria, Growth Inhibiti)

. Additional ecological information:

. General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

**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.

. European waste catalogue

HP3 Flammable

HP4 Irritant - skin irritation and eye damage

HP5 Specific Target Organ Toxicity (STOT)/Aspiration Toxicity

. Uncleaned packaging:

. Recommendation:

Disposal must be made according to official regulations.

**SECTION 14: Transport information**. **14.1 UN number or ID number**

. ADR, IMDG, IATA

UN1950

. **14.2 UN proper shipping name**

. ADR

. IMDG

. IATA

1950 AEROSOLS

AEROSOLS

AEROSOLS, flammable

. **14.3 Transport hazard class(es)**

. ADR



. Class

2 5F Gases.

. Label

2.1

. IMDG, IATA



. Class

2.1 Gases.

. Label

2.1

. **14.4 Packing group**

. ADR, IMDG, IATA

Void

. **14.5 Environmental hazards:**

. Marine pollutant:

No

. **14.6 Special precautions for user**

. Hazard identification number (Kemler code):

. EMS Number:

. Stowage Code

Warning: Gases.

-

F-D,S-U

SW1 Protected from sources of heat.

SW22 For AEROSOLS with a maximum capacity of 1 litre: Category A.

For AEROSOLS with a capacity above 1 litre: Category B. For WASTE

AEROSOLS: Category C, Clear of living quarters.

SG69 For AEROSOLS with a maximum capacity of 1 litre:

Segregation as for class 9. Stow "separated from" class 1 except for division 1.4.

For AEROSOLS with a capacity above 1 litre:

Segregation as for the appropriate subdivision of class 2.

For WASTE AEROSOLS:

Segregation as for the appropriate subdivision of class 2.

. **14.7 Maritime transport in bulk according to IMO instruments**

Not applicable.

. Transport/Additional information:

. ADR

. Limited quantities (LQ)

. Excepted quantities (EQ)

1L

Code: E0

Not permitted as Excepted Quantity

. Transport category

2

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GB

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**Trade name: Isotrep - Spray schwarz**

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. Tunnel restriction code	D
. IMDG	1L
. Limited quantities (LQ)	Code: E0
. Excepted quantities (EQ)	Not permitted as Excepted Quantity
. UN "Model Regulation":	UN 1950 AEROSOLS, 2.1

### SECTION 15: Regulatory information

#### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

- . Directive 2012/18/EU
  - . Named dangerous substances - ANNEX I
  - . Seveso category
  - . Qualifying quantity (tonnes) for the application of lower-tier requirements
  - . Qualifying quantity (tonnes) for the application of upper-tier requirements
  - . 15.2 Chemical safety assessment:
- None of the ingredients is listed.  
P3a FLAMMABLE AEROSOLS  
150 t  
500 t  
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.

- . Department issuing SDS: Environment protection department.
- . Abbreviations and acronyms:
  - 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
  - ELINCS: European List of Notified Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - VOC: Volatile Organic Compounds (USA, EU)
  - DNEL: Derived No-Effect Level (GB REACH)
  - PNEC: Predicted No-Effect Concentration (GB REACH)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - Expl. 1.1: Explosives – Division 1.1
  - Flam. Gas 1A: Flammable gases – Category 1A
  - Aerosol 1: Aerosols – Category 1
  - Press. Gas (Comp.): Gases under pressure – Compressed gas
  - Flam. Liq. 2: Flammable liquids – Category 2
  - Flam. Liq. 3: Flammable liquids – Category 3
  - Acute Tox. 4: Acute toxicity – Category 4
  - 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 3: Specific target organ toxicity (single exposure) – Category 3

\* Data compared to the previous version altered.