

## Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

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

#### 1.1 Product identifier

**E10 Additive 150 ml**

**Art.: 21421**

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

**Relevant identified uses of the substance or mixture:**

Fuel additive

**Uses advised against:**

No information available at present.

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

LIQUI MOLY GmbH  
Jerg-Wieland-Str. 4  
89081 Ulm-Lehr  
Tel.: (+49) 0731-1420-0  
Fax: (+49) 0731-1420-88

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

#### 1.4 Emergency telephone number

**Emergency information services / official advisory body:**

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**Telephone number of the company in case of emergencies:**

+49 (0) 700 / 24 112 112 (LMR)

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) 1272/2008 (CLP)**

Hazard class	Hazard category	Hazard statement
Eye Dam.	1	H318-Causes serious eye damage.
Asp. Tox.	1	H304-May be fatal if swallowed and enters airways.
Aquatic Chronic	3	H412-Harmful to aquatic life with long lasting effects.

#### 2.2 Label elements

**Labeling according to Regulation (EC) 1272/2008 (CLP)**

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Danger

H318-Causes serious eye damage. H304-May be fatal if swallowed and enters airways. H412-Harmful to aquatic life with long lasting effects.

P101-If medical advice is needed, have product container or label at hand. P102-Keep out of reach of children.

P273-Avoid release to the environment. P280-Wear eye protection / face protection.

P301+P310-IF SWALLOWED: Immediately call a POISON CENTER / doctor. P305+P351+P338-IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P331-Do NOT induce vomiting.

P405-Store locked up.

P501-Dispose of contents / container to an approved waste disposal facility.

EUH066-Repeated exposure may cause skin dryness or cracking.

Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics

Hydrocarbons, C10, aromatics, >1% naphthalene

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics

Bornan-2-one

### 2.3 Other hazards

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

Hazardous to drinking water, on escape of even small quantities.

## SECTION 3: Composition/information on ingredients

### 3.1 Substance

n.a.

### 3.2 Mixture

<b>Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics</b>	
<b>Registration number (REACH)</b>	01-2119457273-39-XXXX
<b>Index</b>	---
<b>EINECS, ELINCS, NLP</b>	918-481-9 (REACH-IT List-No.)
<b>CAS</b>	---
<b>content %</b>	70-90
<b>Classification according to Regulation (EC) 1272/2008 (CLP)</b>	Asp. Tox. 1, H304
<b>Bornan-2-one</b>	
<b>Registration number (REACH)</b>	---
<b>Index</b>	---
<b>EINECS, ELINCS, NLP</b>	200-945-0
<b>CAS</b>	76-22-2
<b>content %</b>	1-5

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<b>Classification according to Regulation (EC) 1272/2008 (CLP)</b>	Flam. Sol. 2, H228 Skin Irrit. 2, H315 Eye Dam. 1, H318 Acute Tox. 4, H332 STOT SE 2, H371 (lung) (as inhalation) Aquatic Chronic 2, H411
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<b>Hydrocarbons, C10, aromatics, &gt;1% naphthalene</b>	
<b>Registration number (REACH)</b>	01-2119463588-24-XXXX
<b>Index</b>	---
<b>EINECS, ELINCS, NLP</b>	919-284-0 (REACH-IT List-No.)
<b>CAS</b>	(64742-94-5)
<b>content %</b>	1-5
<b>Classification according to Regulation (EC) 1272/2008 (CLP)</b>	Asp. Tox. 1, H304 STOT SE 3, H336 Aquatic Chronic 2, H411

<b>Naphthalene</b>	<b>Substance for which an EU exposure limit value applies.</b>
<b>Registration number (REACH)</b>	---
<b>Index</b>	601-052-00-2
<b>EINECS, ELINCS, NLP</b>	202-049-5
<b>CAS</b>	91-20-3
<b>content %</b>	0,1-<1
<b>Classification according to Regulation (EC) 1272/2008 (CLP)</b>	Flam. Sol. 2, H228 Acute Tox. 4, H302 Carc. 2, H351 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.

The substances named in this section are given with their actual, appropriate classification!

For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

If, for example, the note P is applied for a hydrocarbon then this has already been taken into account for the classification named here.

Quote: "Note P - The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0,1 % w/w benzene (EINECS No 200-753-7)."

Article 4 of the regulation (EC) no. 1272/2008 (CLP regulation) was also observed and taken into account for the classification named here.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

First-aiders should ensure they are protected!

Never pour anything into the mouth of an unconscious person!

#### Inhalation

Remove person from danger area.

Supply person with fresh air and consult doctor according to symptoms.

If the person is unconscious, place in a stable side position and consult a doctor.

#### Skin contact

Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

#### Eye contact

Remove contact lenses.

Wash thoroughly for several minutes using copious water - call doctor immediately, have Data Sheet available.

Protect uninjured eye.

Follow-up examination by an ophthalmologist.

#### Ingestion

Rinse the mouth thoroughly with water.

Do not induce vomiting - give copious water to drink. Consult doctor immediately.

Danger of aspiration.

In case of vomiting, keep head low so that the stomach content does not reach the lungs.

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

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.

The following may occur:

Irritation of the eyes

Product removes fat.

Dermatitis (skin inflammation)

Ingestion:

Oedema of the lungs

Lung damage

Chemical pneumonitis (condition similar to pneumonia)

In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

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

Gastric lavage (stomach washing) only under endotracheal intubation.

Subsequent observation for pneumonia and pulmonary oedema.

# SECTION 5: Firefighting measures

## 5.1 Extinguishing media

### Suitable extinguishing media

Water jet spray / alcohol resistant foam / CO<sub>2</sub> / dry extinguisher.

### Unsuitable extinguishing media

High volume water jet

## 5.2 Special hazards arising from the substance or mixture

In case of fire the following can develop:

Oxides of carbon

Oxides of nitrogen

Hydrocarbons

Toxic pyrolysis products.

Explosive vapour/air or gas/air mixtures.

## 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.

Protective respirator with independent air supply.

According to size of fire

Full protection, if necessary.

Cool container at risk with water.

Dispose of contaminated extinction water according to official regulations.

# SECTION 6: Accidental release measures

## 6.1 Personal precautions, protective equipment and emergency procedures

Remove possible causes of ignition - do not smoke.

Ensure sufficient supply of air.

Avoid inhalation, and contact with eyes or skin.

If applicable, caution - risk of slipping.

## 6.2 Environmental precautions

If leakage occurs, dam up.

Resolve leaks if this possible without risk.

Prevent from entering drainage system.

Prevent surface and ground-water infiltration, as well as ground penetration.

If accidental entry into drainage system occurs, inform responsible authorities.

## 6.3 Methods and material for containment and cleaning up

Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth) and dispose of according to Section 13.

## 6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

# SECTION 7: Handling and storage

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In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

## 7.1 Precautions for safe handling

### 7.1.1 General recommendations

Ensure good ventilation.  
 Keep away from sources of ignition - Do not smoke.  
 Avoid contact with eyes or skin.  
 Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.  
 Observe directions on label and instructions for use.  
 Use working methods according to operating instructions.

### 7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.  
 Wash hands before breaks and at end of work.  
 Keep away from food, drink and animal feedingstuffs.  
 Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

## 7.2 Conditions for safe storage, including any incompatibilities

Keep out of access to unauthorised individuals.  
 Store product closed and only in original packing.  
 Not to be stored in gangways or stair wells.  
 Solvent resistant floor  
 Do not store with oxidizing agents.  
 Store in a well ventilated place.  
 Protect from direct sunlight and warming.

## 7.3 Specific end use(s)

No information available at present.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Workplace exposure limit (WEL) of the total hydrocarbon solvent content of the mixture (RCP method according to EH40):  
 800 mg/m<sup>3</sup>

<b>Chemical Name</b>	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics	Content %:	70-90
WEL-TWA:	800 mg/m <sup>3</sup>	WEL-STEL:	---
Monitoring procedures:	<ul style="list-style-type: none"> <li>- Draeger - Hydrocarbons 2/a (81 03 581)</li> <li>- Draeger - Hydrocarbons 0,1%/c (81 03 571)</li> <li>- Compur - KITA-187 S (551 174)</li> </ul>		
BMGV:	---	Other information:	(OEL acc. to RCP-method, paragraphs 84-87, EH40)
<b>Chemical Name</b>	Bornan-2-one	Content %:	1-5
WEL-TWA:	2 ppm (12 mg/m <sup>3</sup> )	WEL-STEL:	3 ppm (19 mg/m <sup>3</sup> )
Monitoring procedures:	---		
BMGV:	---	Other information:	---
<b>Chemical Name</b>	Hydrocarbons, C10, aromatics, >1% naphthalene	Content %:	1-5
WEL-TWA:	500 mg/m <sup>3</sup> (Aromatics)	WEL-STEL:	---
Monitoring procedures:	<ul style="list-style-type: none"> <li>- Draeger - Hydrocarbons 2/a (81 03 581)</li> <li>- Draeger - Hydrocarbons 0,1%/c (81 03 571)</li> </ul>		
BMGV:	---	Other information:	---
<b>Chemical Name</b>	Naphthalene	Content %:	0,1-<1
WEL-TWA:	500 mg/m <sup>3</sup> (Aromatics) (WEL), 10 ppm (50 mg/m <sup>3</sup> ) (EU)	WEL-STEL:	---
Monitoring procedures:	- Compur - KITA-153 U(C) (551 182)		
BMGV:	---	Other information:	---
<b>Chemical Name</b>	Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Content %:	
WEL-TWA:	1200 mg/m <sup>3</sup> (>=C7 normal and branched chain alkanes)	WEL-STEL:	---
Monitoring procedures:	<ul style="list-style-type: none"> <li>- Draeger - Hydrocarbons 2/a (81 03 581)</li> <li>- Draeger - Hydrocarbons 0,1%/c (81 03 571)</li> </ul>		

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- Compur - KITA-187 S (551 174)

BMGV: ---

Other information: ---

#### Bornan-2-one

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	1,71	µg/l	
	Environment - marine		PNEC	0,171	µg/l	
	Environment - sediment, freshwater		PNEC	0,139	mg/kg	
	Environment - sediment, marine		PNEC	0,017	mg/kg	
	Environment - soil		PNEC	0,013	mg/kg	
	Environment - sewage treatment plant		PNEC	1	mg/l	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	4,348	mg/m <sup>3</sup>	
Consumer	Human - dermal	Long term, systemic effects	DNEL	5	mg/kg bw/d	
Consumer	Human - oral	Long term, systemic effects	DNEL	5	mg/kg bw/d	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	17,632	mg/m <sup>3</sup>	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	10	mg/kg bw/d	

#### Hydrocarbons, C10, aromatics, >1% naphthalene

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
Consumer	Human - dermal	Long term, systemic effects	DNEL	7,5	mg/kg bw/d	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	32	mg/m <sup>3</sup>	
Consumer	Human - oral	Long term, systemic effects	DNEL	7,5	mg/kg bw/d	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	151	mg/m <sup>3</sup>	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	12,5	mg/kg bw/d	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	151	mg/m <sup>3</sup>	

#### Naphthalene

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,0024	mg/l	
	Environment - marine		PNEC	0,0024	mg/l	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	25	mg/m <sup>3</sup>	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	3,57	mg/kg bw/day	

WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany).

(8) = Inhalable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (9) = Respirable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (11) = Inhalable fraction (Directive 2004/37/CE). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine

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(Directive 2004/37/CE). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period).  
(8) = Inhalable fraction (2017/164/EU, 2017/2398/EU). (9) = Respirable fraction (2017/164/EU, 2017/2398/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). | BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.  
\*\* = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.  
(13) = The substance can cause sensitisation of the skin and of the respiratory tract (Directive 2004/37/CE), (14) = The substance can cause sensitisation of the skin (Directive 2004/37/CE).

## 8.2 Exposure controls

### 8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.  
If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.  
Applies only if maximum permissible exposure values are listed here.  
Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.  
These are specified by e.g. BS EN 14042.  
BS EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

### 8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.  
Wash hands before breaks and at end of work.  
Keep away from food, drink and animal feedingstuffs.  
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:  
Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:  
Solvent resistant protective gloves (EN 374).  
If applicable  
Protective nitrile gloves (EN 374).  
Protective gloves made of polyvinyl alcohol (EN 374).  
Protective Viton® / fluoroelastomer gloves (EN 374).  
Minimum layer thickness in mm:  
0,5  
Permeation time (penetration time) in minutes:  
480  
The breakthrough times determined in accordance with EN 16523-1 were not obtained under practical conditions.  
The recommended maximum wearing time is 50% of breakthrough time.  
Protective hand cream recommended.

Skin protection - Other:  
Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection:  
If OES or MEL is exceeded.  
Gas mask filter A (EN 14387), code colour brown  
At high concentrations:  
Respiratory protection appliance (insulation device) (e.g. EN 137 or EN 138)  
Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:  
Not applicable

Additional information on hand protection - No tests have been performed.  
In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.  
Selection of materials derived from glove manufacturer's indications.  
Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.  
Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.

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In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.  
 The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

### 8.2.3 Environmental exposure controls

No information available at present.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	Light brown
Odour:	Characteristic
Odour threshold:	Not determined
pH-value:	n.a.
Melting point/freezing point:	Not determined
Initial boiling point and boiling range:	Not determined
Flash point:	>63 °C
Evaporation rate:	Not determined
Flammability (solid, gas):	Not determined
Lower explosive limit:	0,7 Vol-% (Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics)
Upper explosive limit:	6 Vol-% (Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics)
Vapour pressure:	Not determined
Vapour density (air = 1):	Not determined
Density:	0,825 g/ml (15°C)
Bulk density:	Not determined
Solubility(ies):	Not determined
Water solubility:	Insoluble
Partition coefficient (n-octanol/water):	Not determined
Auto-ignition temperature:	Not determined
Decomposition temperature:	Not determined
Viscosity:	<7 mm <sup>2</sup> /s (40°C)
Explosive properties:	Not determined
Oxidising properties:	No

### 9.2 Other information

Miscibility:	Not determined
Fat solubility / solvent:	Not determined
Conductivity:	Not determined
Surface tension:	Not determined
Solvents content:	Not determined

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

The product has not been tested.

### 10.2 Chemical stability

Stable with proper storage and handling.

### 10.3 Possibility of hazardous reactions

No dangerous reactions are known.

### 10.4 Conditions to avoid

Heating, open flame, ignition sources

### 10.5 Incompatible materials

Avoid contact with strong oxidizing agents.

### 10.6 Hazardous decomposition products

No decomposition when used as directed.

## SECTION 11: Toxicological information



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## 11.1 Information on toxicological effects

Possibly more information on health effects, see Section 2.1 (classification).

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Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:						n.d.a.
Acute toxicity, by dermal route:						n.d.a.
Acute toxicity, by inhalation:						n.d.a.
Skin corrosion/irritation:						n.d.a.
Serious eye damage/irritation:						n.d.a.
Respiratory or skin sensitisation:						n.d.a.
Germ cell mutagenicity:						n.d.a.
Carcinogenicity:						n.d.a.
Reproductive toxicity:						n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.
Specific target organ toxicity - repeated exposure (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.
Symptoms:						n.d.a.

### Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	Analogous conclusion
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	Analogous conclusion
Acute toxicity, by inhalation:	LC50	>4951	mg/m <sup>3</sup> /4h	Rat	OECD 403 (Acute Inhalation Toxicity)	Analogous conclusion, Vapours
Skin corrosion/irritation:					OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant, Analogous conclusion
Serious eye damage/irritation:					OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant, Analogous conclusion
Respiratory or skin sensitisation:					OECD 406 (Skin Sensitisation)	Not sensitising, Analogous conclusion
Germ cell mutagenicity:					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative, Analogous conclusion
Germ cell mutagenicity:					OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative, Analogous conclusion
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Carcinogenicity:					OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Negative, Analogous conclusion
Reproductive toxicity:					OECD 414 (Prenatal Developmental Toxicity Study)	Negative, Analogous conclusion
Specific target organ toxicity - repeated exposure (STOT-RE):					OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)	Negative, Analogous conclusion
Aspiration hazard:						Yes

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Symptoms:						unconsciousness , headaches, dizziness
Other information:						Repeated exposure may cause skin dryness or cracking.

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Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 423 (Acute Oral Toxicity - Acute Toxic Class Method)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	>10000	mg/m3	Rat	OECD 403 (Acute Inhalation Toxicity)	Dust(-2h)
Skin corrosion/irritation:					OECD 439 (In Vitro Skin Irritation - Reconstructed Human Epidermis Test Method)	Skin Irrit. 2
Serious eye damage/irritation:					OECD 437 (Bovine Corneal Opacity + Permeability Test for Identif. Ocular Corros. + Severe Irritants)	Eye Dam. 1
Germ cell mutagenicity:				Mouse	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative
Germ cell mutagenicity:				Mouse	OECD 475 (Mammalian Bone Marrow Chromosome Aberration Test)	Negative

<b>Hydrocarbons, C10, aromatics, &gt;1% naphthalene</b>						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rabbit		
Acute toxicity, by inhalation:	LC50	>590	mg/m3	Rat		Vapours
Aspiration hazard:						Yes

<b>Naphthalene</b>						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	533-710	mg/kg	Mouse	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>16000	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	>44	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	Maximum achievable concentration.
Skin corrosion/irritation:				Rabbit		Not irritant
Serious eye damage/irritation:				Rabbit	(Draize-Test)	Not irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact)
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:				Mammalian	OECD 479 (Genetic Toxicology - In Vitro Sister Chromatid Exchange assay in Mammalian Cells)	Negative



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12.1. Toxicity to algae:							n.d.a.
12.2. Persistence and degradability:							Isolate as much as possible with an oil separator.
12.3. Bioaccumulative potential:							n.d.a.
12.4. Mobility in soil:							n.d.a.
12.5. Results of PBT and vPvB assessment							n.d.a.
12.6. Other adverse effects:							n.d.a.
Other information:							According to the recipe, contains no AOX.

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Water solubility:							Product floats on the water surface.
12.1. Toxicity to fish:	LL50	96h	>1000	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to fish:	NOELR	28d	0,101	mg/l	Oncorhynchus mykiss		
12.1. Toxicity to daphnia:	EL50	48h	>1000	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	NOELR	21d	0,176	mg/l	Daphnia magna		
12.2. Persistence and degradability:		28d	80	%	activated sludge	OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable
12.1. Toxicity to algae:	EL50	72h	>1000	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
Other organisms:	EL50	48h	>1000	mg/l	Tetrahymena pyriformis		

Bornan-2-one							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	33,25	mg/l	Brachydanio rerio	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	LC50	48h	4,23	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	1,71	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	0,032	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	

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12.2. Persistence and degradability:		28d	77	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	
12.3. Bioaccumulative potential:	Log Pow		2,38				
Toxicity to bacteria:	EC50	3h	>100	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	

**Hydrocarbons, C10, aromatics, >1% naphthalene**

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.3. Bioaccumulative potential:	Log Pow		3,3				
12.1. Toxicity to fish:	LC50	96h	2-5	mg/l	Pimephales promelas		
12.1. Toxicity to daphnia:	EC50	48h	3-10	mg/l	Daphnia magna		
12.1. Toxicity to algae:	EC50	72h	1 - 3	mg/l	Pseudokirchneriella subcapitata		
12.2. Persistence and degradability:		28d	58	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Inherent
12.3. Bioaccumulative potential:	BCF		<100				Low

**Naphthalene**

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	0,11	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to fish:	LC50	27d	0,12	mg/l	Oncorhynchus mykiss		
12.3. Bioaccumulative potential:	BCF		36,5-168				Low
12.1. Toxicity to daphnia:	EC50	48h	2,16	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	>60d	0,59	mg/l	Daphnia pulex		125d
12.1. Toxicity to algae:	EC50	96h	2,96	mg/l	Pseudokirchneriella subcapitata		
12.2. Persistence and degradability:		28d	>74	%		OECD 301 C (Ready Biodegradability - Modified MITI Test (I))	Readily biodegradable
12.2. Persistence and degradability:		28d	0-2	%	activated sludge	OECD 302 C (Inherent Biodegradability - Modified MITI Test (II))	

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12.3. Bioaccumulative potential:	Log Pow		3,4			OECD 107 (Partition Coefficient (n-octanol/water) - Shake Flask Method)	(25°C)
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Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	NOELR	28d	0,17	mg/l	Oncorhynchus mykiss	QSAR	
12.1. Toxicity to fish:	LL50	96h	>1000	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	NOELR	21d	1,22	mg/l	Daphnia magna	QSAR	
12.1. Toxicity to daphnia:	EL50	48h	>1000	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	NOELR	72h	1000	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	69	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		6-8				High
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### For the substance / mixture / residual amounts

EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product.

Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)

07 07 04 other organic solvents, washing liquids and mother liquors

14 06 03 other solvents and solvent mixtures

Recommendation:

Sewage disposal shall be discouraged.

Pay attention to local and national official regulations.

Implement substance recycling.

E.g. suitable incineration plant.

#### For contaminated packing material

Pay attention to local and national official regulations.

Empty container completely.

Untampered packaging can be recycled.

Dispose of packaging that cannot be cleaned in the same manner as the substance.

## SECTION 14: Transport information

### General statements

14.1. UN number:

n.a.

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### Transport by road/by rail (ADR/RID)

14.2. UN proper shipping name:  
 14.3. Transport hazard class(es): n.a.  
 14.4. Packing group: n.a.  
 Classification code: n.a.  
 LQ: n.a.  
 14.5. Environmental hazards: Not applicable  
 Tunnel restriction code:

### Transport by sea (IMDG-code)

14.2. UN proper shipping name:  
 14.3. Transport hazard class(es): n.a.  
 14.4. Packing group: n.a.  
 Marine Pollutant: n.a.  
 14.5. Environmental hazards: Not applicable

### Transport by air (IATA)

14.2. UN proper shipping name:  
 14.3. Transport hazard class(es): n.a.  
 14.4. Packing group: n.a.  
 14.5. Environmental hazards: Not applicable

### 14.6. Special precautions for user

Unless specified otherwise, general measures for safe transport must be followed.

### 14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Non-dangerous material according to Transport Regulations.

## SECTION 15: Regulatory information

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

Observe restrictions:

Comply with national regulations/laws governing maternity protection (national implementation of the Directive 92/85/EEC)!

Comply with trade association/occupational health regulations.

Directive 2010/75/EU (VOC): ~ 90,5 %

### 15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

## SECTION 16: Other information

Revised sections:

2, 3, 4, 11, 12, 15, 16

These details refer to the product as it is delivered.

Employee instruction/training in handling hazardous materials is required.

### Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

Classification in accordance with regulation (EC) No. 1272/2008 (CLP)	Evaluation method used
Eye Dam. 1, H318	Classification according to calculation procedure.
Asp. Tox. 1, H304	Classification according to calculation procedure.
Aquatic Chronic 3, H412	Classification according to calculation procedure.

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).

H371 May cause damage to organs by inhalation.

H302 Harmful if swallowed.

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H304 May be fatal if swallowed and enters airways.  
 H315 Causes skin irritation.  
 H318 Causes serious eye damage.  
 H332 Harmful if inhaled.  
 H336 May cause drowsiness or dizziness.  
 H351 Suspected of causing cancer.  
 H400 Very toxic to aquatic life.  
 H410 Very toxic to aquatic life with long lasting effects.  
 H411 Toxic to aquatic life with long lasting effects.  
 H228 Flammable solid.

Eye Dam. — Serious eye damage  
 Asp. Tox. — Aspiration hazard  
 Aquatic Chronic — Hazardous to the aquatic environment - chronic  
 Flam. Sol. — Flammable solid  
 Skin Irrit. — Skin irritation  
 Acute Tox. — Acute toxicity - inhalation  
 STOT SE — Specific target organ toxicity - single exposure  
 STOT SE — Specific target organ toxicity - single exposure - narcotic effects  
 Acute Tox. — Acute toxicity - oral  
 Carc. — Carcinogenicity  
 Aquatic Acute — Hazardous to the aquatic environment - acute

### Any abbreviations and acronyms used in this document:

acc., acc. to according, according to  
 ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 AOX Adsorbable organic halogen compounds  
 approx. approximately  
 Art., Art. no. Article number  
 ASTM ASTM International (American Society for Testing and Materials)  
 BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)  
 BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)  
 BSEF The International Bromine Council  
 bw body weight  
 CAS Chemical Abstracts Service  
 CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)  
 CMR carcinogenic, mutagenic, reproductive toxic  
 DMEL Derived Minimum Effect Level  
 DNEL Derived No Effect Level  
 dw dry weight  
 e.g. for example (abbreviation of Latin 'exempli gratia'), for instance  
 EC European Community  
 ECHA European Chemicals Agency  
 EEC European Economic Community  
 EINECS European Inventory of Existing Commercial Chemical Substances  
 ELINCS European List of Notified Chemical Substances  
 EN European Norms  
 EPA United States Environmental Protection Agency (United States of America)  
 etc. et cetera  
 EU European Union  
 EVAL Ethylene-vinyl alcohol copolymer  
 Fax. Fax number  
 gen. general  
 GHS Globally Harmonized System of Classification and Labelling of Chemicals  
 GWP Global warming potential  
 IARC International Agency for Research on Cancer  
 IATA International Air Transport Association  
 IBC (Code) International Bulk Chemical (Code)  
 IMDG-code International Maritime Code for Dangerous Goods



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incl. including, inclusive  
IUCLID International Uniform Chemical Information Database  
LQ Limited Quantities  
MARPOL International Convention for the Prevention of Marine Pollution from Ships  
n.a. not applicable  
n.av. not available  
n.c. not checked  
n.d.a. no data available  
OECD Organisation for Economic Co-operation and Development  
org. organic  
PBT persistent, bioaccumulative and toxic  
PE Polyethylene  
PNEC Predicted No Effect Concentration  
ppm parts per million  
PVC Polyvinylchloride  
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)  
REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.  
RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)  
SVHC Substances of Very High Concern  
Tel. Telephone  
UN RTDG United Nations Recommendations on the Transport of Dangerous Goods  
VOC Volatile organic compounds  
vPvB very persistent and very bioaccumulative  
wwt wet weight

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.

No responsibility.

These statements were made by:

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