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Revision date / version: 29.04.2021 / 0005  
Replacing version dated / version: 04.02.2021 / 0004  
Valid from: 29.04.2021  
PDF print date: 24.06.2021  
DUO-FIX HARDENER 200 ml  
Art.: 409840

## 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

**DUO-FIX HARDENER 200 ml**  
**Art.: 409840**

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

Relevant identified uses of the substance or mixture:

Activator

Sector of use [SU]:

SU 0 - Other

SU 1 - Agriculture, forestry, fishery

SU19 - Building and construction work

SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Chemical product category [PC]:

PC 1 - Adhesives, sealants

Process category [PROC]:

PROC11 - Non industrial spraying

Article Categories [AC]:

AC99 - Not required.

Environmental Release Category [ERC]:

ERC99 - Not required.

Uses advised against:

No information available at present.

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

Albert Berner Deutschland GmbH

Bernerstrasse 4

74653 Künzelsau

Tel.: +49 79 40 12 10

Web: [www.berner.de](http://www.berner.de)

Details of the supplier of the safety data sheet see section 16 of this safety data sheet.

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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) 221 80260 889 (9:00h - 17:00h)

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

## 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 Irrit.	2	H319-Causes serious eye irritation.
STOT SE	3	H336-May cause drowsiness or dizziness.
Aerosol	1	H222-Extremely flammable aerosol.
Aerosol	1	H229-Pressurised container: May burst if heated.

### 2.2 Label elements

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



Danger

H319-Causes serious eye irritation. H336-May cause drowsiness or dizziness. H222-Extremely flammable aerosol. H229-Pressurised container: May burst if heated.

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 vapours or spray. P280-Wear eye protection.  
P312-Call a POISON CENTRE / doctor if you feel unwell.  
P410+P412-Protect from sunlight. Do not expose to temperatures exceeding 50 °C.

EUH066-Repeated exposure may cause skin dryness or cracking.

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Without adequate ventilation, formation of explosive mixtures may be possible.  
 Acetone

### 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 %).

## SECTION 3: Composition/information on ingredients

Aerosol

### 3.1 Substances

n.a.

### 3.2 Mixtures

Dimethyl ether	Substance for which an EU exposure limit value applies.
<b>Registration number (REACH)</b>	---
<b>Index</b>	603-019-00-8
<b>EINECS, ELINCS, NLP, REACH-IT List-No.</b>	204-065-8
<b>CAS</b>	115-10-6
<b>content %</b>	50-70
<b>Classification according to Regulation (EC) 1272/2008 (CLP), M-factors</b>	Flam. Gas 1A, H220

Acetone	Substance for which an EU exposure limit value applies.
<b>Registration number (REACH)</b>	01-2119471330-49-XXXX
<b>Index</b>	606-001-00-8
<b>EINECS, ELINCS, NLP, REACH-IT List-No.</b>	200-662-2
<b>CAS</b>	67-64-1
<b>content %</b>	20-40
<b>Classification according to Regulation (EC) 1272/2008 (CLP), M-factors</b>	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336

N,N-dimethyl-p-toluidine	Substance for which an EU exposure limit value applies.
<b>Registration number (REACH)</b>	---
<b>Index</b>	612-056-00-9
<b>EINECS, ELINCS, NLP, REACH-IT List-No.</b>	202-805-4
<b>CAS</b>	99-97-8
<b>content %</b>	0,1-<1
<b>Classification according to Regulation (EC) 1272/2008 (CLP), M-factors</b>	Acute Tox. 3, H331 Acute Tox. 3, H311 Acute Tox. 3, H301 STOT RE 2, H373 Aquatic Chronic 3, H412

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!

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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.

## 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

Wash thoroughly using copious water - remove contaminated clothing immediately. If skin irritation occurs (redness etc.), consult doctor.

#### Eye contact

Consult medical specialist.

Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

#### Ingestion

Typically no exposure pathway.

Rinse the mouth thoroughly with water.

Do not induce vomiting. Consult doctor immediately.

### 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.

Headaches

Dizziness

Effect on the central nervous system

Coordination disorders

Mental confusion

Unconsciousness

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

Symptomatic treatment.

## 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

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Toxic gases

Danger of bursting (explosion) when heated

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.

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.

### 6.2 Environmental precautions

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

Prevent penetration into drains, cellars, working pits or other places in which accumulation could be hazardous.

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

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

If spray or gas escapes, ensure ample fresh air is available.

Active substance:

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

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.

Avoid inhalation of the vapours.

Keep away from sources of ignition - Do not smoke.

Do not use on hot surfaces.

Take precautions against electrostatic charges.

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

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Keep out of access to unauthorised individuals.  
 Store product closed and only in original packing.  
 Not to be stored in gangways or stair wells.  
 Do not store with oxidizing agents.  
 Observe special regulations for aerosols!  
 Observe special storage conditions.  
 Keep protected from direct sunlight and temperatures over 50°C.  
 Store in a well ventilated place.

### 7.3 Specific end use(s)

No information available at present.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Chemical Name	Dimethyl ether		Content %:50-70
WEL-TWA: 400 ppm (766 mg/m3) (WEL), 1000 ppm (1920 mg/m3) (EU)	WEL-STEL: 500 ppm (958 mg/m3) (WEL)	---	
Monitoring procedures:	- Compur - KITA-123 S (549 129)		
BMGV: ---	Other information: ---		

Chemical Name	Acetone		Content %:20-40
WEL-TWA: 500 ppm (1210 mg/m3) (WEL, EU)	WEL-STEL: 1500 ppm (3620 mg/m3) (WEL)	---	
Monitoring procedures:	<ul style="list-style-type: none"> <li>- Draeger - Acetone 100/b (CH 22 901)</li> <li>- Draeger - Acetone 40/a (5) (81 03 381)</li> <li>- Compur - KITA-102 SA (548 534)</li> <li>- Compur - KITA-102 SC (548 550)</li> <li>- Compur - KITA-102 SD (551 109)</li> <li>- INSHT MTA/MA-031/A96 (Determination of ketones (acetone, methyl ethyl ketone, methyl isobutyl ketone) in air - Charcoal tube method / Gas chromatography) - 1996 - EU project</li> <li>- BC/CEN/ENTR/000/2002-16 card 67-1 (2004)</li> <li>- MDHS 72 (Volatile organic compounds in air – Laboratory method using pumped solid sorbent tubes, thermal desorption and gas chromatography) - 1993</li> <li>- NIOSH 1300 (KETONES I) - 1994</li> <li>- NIOSH 2549 (VOLATILE ORGANIC COMPOUNDS (SCREENING)) - 1996</li> <li>- NIOSH 2555 (KETONES I) - 2003</li> <li>- NIOSH 3800 (ORGANIC AND INORGANIC GASES BY EXTRACTIVE FTIR SPECTROMETRY) - 2016</li> <li>- OSHA 69 (Acetone) - 1988</li> </ul>		
BMGV: ---	Other information: ---		

**Dimethyl ether**

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Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,155	mg/l	
	Environment - sediment, freshwater		PNEC	0,681	mg/kg	
	Environment - soil		PNEC	0,045	mg/kg	
	Environment - sewage treatment plant		PNEC	160	mg/l	
	Environment - marine		PNEC	0,016	mg/l	
	Environment - water, sporadic (intermittent) release		PNEC	1,549	mg/l	
	Environment - sediment, marine		PNEC	0,069	mg/kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	471	mg/m <sup>3</sup>	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	1894	mg/m <sup>3</sup>	

Acetone						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - marine		PNEC	1,06	mg/l	Assessment factor 500
	Environment - freshwater		PNEC	10,6	mg/l	Assessment factor 50
	Environment - sediment, freshwater		PNEC	30,4	mg/kg dw	
	Environment - sediment, marine		PNEC	3,04	mg/kg dw	
	Environment - soil		PNEC	29,5	mg/kg dw	
	Environment - sewage treatment plant		PNEC	19,5	mg/l	
	Environment - sporadic (intermittent) release		PNEC	21	mg/l	Assessment factor 100
	Environment - sewage treatment plant		PNEC	100	mg/l	

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Consumer	Human - oral	Long term, systemic effects	DNEL	62	mg/kg bw/day	Overall assessment factor 2
Consumer	Human - dermal	Long term, systemic effects	DNEL	62	mg/kg bw/day	Overall assessment factor 20
Consumer	Human - inhalation	Long term, systemic effects	DNEL	200	mg/m3	Overall assessment factor 5
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	186	mg/kg bw/day	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	2420	mg/m3	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	1210	mg/m3	

**N,N-dimethyl-p-toluidine**

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - water, sporadic (intermittent) release		PNEC	0,137	mg/l	
	Environment - freshwater		PNEC	0,014	mg/l	
	Environment - marine		PNEC	0,001	mg/l	
	Environment - sediment, freshwater		PNEC	48,245	mg/kg	
	Environment - sediment, marine		PNEC	48,245	mg/kg	
	Environment - sewage treatment plant		PNEC	1,36	mg/l	
	Environment - soil		PNEC	20,365	mg/kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	0,302	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	0,347	mg/kg body weight/day	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,174	mg/kg body weight/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	1,224	mg/m3	



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Workers / employees	Human - dermal	Long term, systemic effects	DNEL	0,694	mg/kg body weight/d ay	
---------------------	----------------	-----------------------------	------	-------	------------------------	--

Ⓢ 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 (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. EN 14042.

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:

Protective gloves in butyl rubber (EN 374).

Minimum layer thickness in mm:

>= 0,5

Permeation time (penetration time) in minutes:

>= 240

Protective hand cream recommended.

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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.

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 AX (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.

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:	Aerosol. Active substance: liquid.
Colour:	Colourless
Odour:	Characteristic
Odour threshold:	Not determined
pH-value:	Mixture is non-polar/aprotic.
Melting point/freezing point:	Not determined
Initial boiling point and boiling range:	Not determined
Flash point:	Not determined
Evaporation rate:	Not determined
Flammability (solid, gas):	Not determined
Lower explosive limit:	Not determined
Upper explosive limit:	Not determined
Vapour pressure:	Not determined
Vapour density (air = 1):	Not determined
Density:	0,703 g/cm <sup>3</sup>
Bulk density:	n.a.

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Solubility(ies):	Not determined
Water solubility:	Not determined
Partition coefficient (n-octanol/water):	Not determined
Auto-ignition temperature:	Not determined
Decomposition temperature:	Not determined
Viscosity:	Not determined
Explosive properties:	Not determined
Oxidising properties:	Not determined

## 9.2 Other information

Miscibility:	Not determined
Fat solubility / solvent:	Not determined
Conductivity:	Not determined
Surface tension:	Not determined
Solvents content:	99,8 %

## 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

See also section 7.

Heating, open flame, ignition sources

Pressure increase will result in danger of bursting.

### 10.5 Incompatible materials

See also section 7.

Avoid contact with strong oxidizing agents.

Avoid contact with strong alkalis.

Avoid contact with strong acids.

### 10.6 Hazardous decomposition products

See also section 5.2

No decomposition when used as directed.

## SECTION 11: Toxicological information

### 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.

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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.

**Dimethyl ether**

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by inhalation:	LC50	164	mg/l/4 h	Rat		
Skin corrosion/irritation:						Not irritant
Serious eye damage/irritation:						Not irritant
Respiratory or skin sensitisation:						No (skin contact)
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative
Germ cell mutagenicity:					OECD 477 (Genetic Toxicology - Sex-Linked Recessive Lethal Test in Drosophila melanogaster)	Negative
Carcinogenicity:	NOAEC	47000	mg/m3	Rat	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Negative

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Reproductive toxicity:	NOAEL	5000	ppm	Rat	OECD 414 (Prenatal Developmental Toxicity Study)	
Specific target organ toxicity - repeated exposure (STOT-RE):	NOAEC	47106	mg/kg	Rat	OECD 452 (Chronic Toxicity Studies)	Negative(2a)
Aspiration hazard:						No
Symptoms:						unconsciousness, headaches, mucous membrane irritation, dizziness, nausea and vomiting., frostbite, gastrointestinal disturbances, respiratory distress, circulatory collapse

Acetone						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	5800	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>15800	mg/kg	Rat		
Acute toxicity, by inhalation:	LC50	76	mg/l/4 h	Rat		
Skin corrosion/irritation:				Guinea pig		Repeated exposure may cause skin dryness or cracking., Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Eye Irrit. 2
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Not sensitising
Germ cell mutagenicity:				Mouse	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative

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Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:				Mammalian	OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative
Reproductive toxicity (Developmental toxicity):				Rat	OECD 414 (Prenatal Developmental Toxicity Study)	Negative
Symptoms:						unconsciousness, vomiting, headaches, gastrointestinal disturbances, fatigue, mucous membrane irritation, dizziness, nausea, drowsiness
Specific target organ toxicity - repeated exposure (STOT-RE), oral:	NOAEL	900	mg/kg bw/d	Rat	OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)	

**N,N-dimethyl-p-toluidine**

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Skin corrosion/irritation:					OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:						Not sensitising



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Other information:	AOX		0	%			Does not contain any organically bound halogens which can contribute to the AOX value in waste water.
Other information:	DOC						DOC-elimination degree (complexing organic substance) > = 80%/28d: n.a.

Dimethyl ether							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC0	96h	2695	mg/l	Pimephales promelas		
12.1. Toxicity to fish:	LC50	96h	3082	mg/l	Salmo gairdneri		
12.1. Toxicity to fish:	LC50	96h	>4,1	mg/l	Poecilia reticulata		
12.1. Toxicity to daphnia:	EC50	48h	>4,4	mg/l	Daphnia magna		
12.1. Toxicity to algae:	EC50	96h	154,9	mg/l	Chlorella vulgaris		
12.2. Persistence and degradability:		28d	5	%		OECD 301 D (Ready Biodegradability - Closed Bottle Test)	Not readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		-0,07				Bioaccumulation is unlikely (LogPow < 1). 25°C (pH 7)
12.4. Mobility in soil:	H (Henry)		518,6	Pa*m3/mol			No adsorption in soil.
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC10		>1600	mg/l	Pseudomonas putida		



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Other information:							Does not contain any organically bound halogens which can contribute to the AOX value in waste water. DIN EN 1485
Water solubility:			45,60	mg/l			25°C

Acetone							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Other organisms:	EC5	72h	28	mg/l	Entosiphon sulcatum		
12.1. Toxicity to fish:	EC50	96h	8300	mg/l	Lepomis macrochirus		
12.1. Toxicity to fish:	LC50	96h	8300	mg/l	Lepomis macrochirus		
12.1. Toxicity to fish:	LC50	96h	5540	mg/l	Oncorhynchus mykiss		
12.1. Toxicity to fish:	LC50	96h	7500	mg/l	Leuciscus idus		
12.1. Toxicity to daphnia:	EC50	48h	6100-12700	mg/l	Daphnia magna		
12.1. Toxicity to daphnia:	EC50	48h	8800	mg/l	Daphnia pulex	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	28d	2212	mg/l	Daphnia pulex	OECD 211 (Daphnia magna Reproduction Test)	
12.1. Toxicity to algae:	NOEC/NOEL	8d	530	mg/l		DIN 38412 T.9	Test organism: M. aeruginosa
12.1. Toxicity to algae:	EC50	48h	4740	mg/l	Pseudokirchneriella subcapitata		
12.1. Toxicity to algae:	NOEC/NOEL	48h	3400	mg/l	Pseudokirchneriella subcapitata		
12.2. Persistence and degradability:		28d	91	%		OECD 301 A (Ready Biodegradability - DOC Die-Away Test)	Readily biodegradable

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12.2. Persistence and degradability:		28d	91	%		OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	Readily biodegradable
12.2. Persistence and degradability:		30d	81-92	%		Regulation (EC) 440/2008 C.4-E (DETERMINATION OF 'READY' BIODEGRADABILITY - CLOSED BOTTLE TEST)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		-0,24			OECD 107 (Partition Coefficient (n-octanol/water) - Shake Flask Method)	
12.3. Bioaccumulative potential:	BCF		0,19				Low
12.4. Mobility in soil:							No adsorption in soil.
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC10	30min	1000	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	
Toxicity to bacteria:	BOD/COD	16h	1700	mg/l	<i>Pseudomonas putida</i>		
Other information:	BOD5		1760-1900	mg/g			
Other information:	AOX		0	%			
Other information:	COD		2070	mg/g			

**N,N-dimethyl-p-toluidine**

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
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12.1. Toxicity to algae:	ErC50	96h	15,48 1	mg/l	Chlorella vulgaris		
12.1. Toxicity to daphnia:	EC50	48h	15,25 9	mg/l	Daphnia magna		
12.1. Toxicity to fish:	LC50	96h	100	mg/l	Brachydanio rerio		
12.1. Toxicity to fish:	LC50	96h	46	mg/l	Pimephales promelas		
12.2. Persistence and degradability:	BOD		5	%			Hardly biodegradable, References
12.3. Bioaccumulative potential:	Log Pow		1,73- 2,81				Low
12.4. Mobility in soil:							No adsorption in soil.
12.5. Results of PBT and vPvB assessment							No PBT 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)

16 05 04 gases in pressure containers (including halons) containing hazardous substances

Recommendation:

Sewage disposal shall be discouraged.

Pay attention to local and national official regulations.

Take full aerosol cans to problem waste collection.

Take emptied aerosol cans to valuable material collection.

#### For contaminated packing material

Pay attention to local and national official regulations.

Recommendation:

Do not perforate, cut up or weld uncleaned container.

Residues may present a risk of explosion.

15 01 04 metallic packaging

## SECTION 14: Transport information

### General statements

14.1. UN number:

1950

Transport by road/by rail (ADR/RID)

14.2. UN proper shipping name:

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**UN 1950 AEROSOLS**

14.3. Transport hazard class(es):	2.1	
14.4. Packing group:	-	
Classification code:	5F	
LQ:	1 L	
14.5. Environmental hazards:	Not applicable	
Tunnel restriction code:	D	

**Transport by sea (IMDG-code)**

14.2. UN proper shipping name:	AEROSOLS	
14.3. Transport hazard class(es):	2.1	
14.4. Packing group:	-	
EmS:	F-D, S-U	
Marine Pollutant:	n.a	
14.5. Environmental hazards:	Not applicable	

**Transport by air (IATA)**

14.2. UN proper shipping name:	Aerosols, flammable	
14.3. Transport hazard class(es):	2.1	
14.4. Packing group:	-	
14.5. Environmental hazards:	Not applicable	

**14.6. Special precautions for user**

Persons employed in transporting dangerous goods must be trained.  
 All persons involved in transporting must observe safety regulations.  
 Precautions must be taken to prevent damage.

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

Freighted as packaged goods rather than in bulk, therefore not applicable.  
 Minimum amount regulations have not been taken into account.  
 Danger code and packing code on request.  
 Comply with special provisions.

**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 the protection of young people at work (national implementation of the Directive 94/33/EC)!

This product is regulated by Regulation (EU) 2019/1148. All suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point.

For exceptions see Regulation (EU) 2019/1148 and guidelines for the implementation of Regulation (EU) 2019/1148.

Comply with trade association/occupational health regulations.

Directive 2012/18/EU ("Seveso III"), Annex I, Part 1 - The following categories apply to this product (others may also need to be considered according to storage, handling etc.):

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Hazard categories	Notes to Annex I	Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Lower-tier requirements	Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Upper-tier requirements
P3a	11.1	150 (netto)	500 (netto)

The Notes to Annex 1 of Directive 2012/18/EU, in particular those named in the tables here and notes 1-6, must be taken into account when assigning categories and qualifying quantities.

Directive 2010/75/EU (VOC): 100 %  
 REGULATION (EC) No 648/2004  
 n.a.

## 15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

### SECTION 16: Other information

Revised sections: 15  
 Employee training in handling dangerous goods is required.  
 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 Irrit. 2, H319	Classification according to calculation procedure.
STOT SE 3, H336	Classification according to calculation procedure.
Aerosol 1, H222	Classification based on test data.
Aerosol 1, H229	Classification based on test data.

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).

H225 Highly flammable liquid and vapour.  
 H301 Toxic if swallowed.  
 H311 Toxic in contact with skin.  
 H319 Causes serious eye irritation.  
 H331 Toxic if inhaled.  
 H336 May cause drowsiness or dizziness.  
 H373 May cause damage to organs through prolonged or repeated exposure.  
 H220 Extremely flammable gas.

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H412 Harmful to aquatic life with long lasting effects.

Eye Irrit. — Eye irritation

STOT SE — Specific target organ toxicity - single exposure - narcotic effects

Aerosol — Aerosols

Flam. Gas — Flammable gases - Flammable gas

Flam. Liq. — Flammable liquid

Acute Tox. — Acute toxicity - inhalation

Acute Tox. — Acute toxicity - dermal

Acute Tox. — Acute toxicity - oral

STOT RE — Specific target organ toxicity - repeated exposure

Aquatic Chronic — Hazardous to the aquatic environment - chronic

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### 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)

ATE Acute Toxicity Estimate

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

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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

incl. including, inclusive

IUCLID International Uniform Chemical Information Database

IUPAC International Union for Pure Applied Chemistry

LC50 Lethal Concentration to 50 % of a test population

LD50 Lethal Dose to 50% of a test population (Median Lethal Dose)

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



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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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