

**Safety Data Sheet**

according to UK REACH Regulation

**Dimethylglyoxim 1 %, alkoholisch**

Revision date: 16.07.2021

Product code: 13494.xxxxx

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Dimethylglyoxim 1 %, alkoholisch

**Further trade names**

This MSDS covers the following products in all container sizes:

- REF 13494.xxxxx Dimethylglyoxim 1 %, alkoholisch

UFI: NHC6-Y1P4-1008-XXKN

**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

Use as laboratory reagent. The product is intended for research, analysis and scientific education.

**Uses advised against**

Any non-intended use.

**1.3. Details of the supplier of the safety data sheet****Manufacturer**

Company name: MORPHISTO GmbH  
Street: Schumannstr. 142/144  
Place: D-63069 Offenbach  
Telephone: +49 (0) 69 / 400 3019-60  
e-mail: info@morphisto.de  
Internet: http://www.morphisto.de

Telefax: +49 (0) 69 / 400 3019-64

**Supplier**

Company name: MORPHISTO GmbH  
Street: Schumannstr. 142/144  
Place: D-63069 Offenbach  
Telephone: +49 (0) 69 / 400 3019-60  
e-mail: info@morphisto.de  
Internet: http://www.morphisto.de

Telefax: +49 (0) 69 / 400 3019-64

**1.4. Emergency telephone number:**

Poison Information Center Mainz, Germany, Tel: +49(0)6131/19240

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****GB CLP Regulation**

Hazard categories:

Flammable liquid: Flam. Liq. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Hazard Statements:

Highly flammable liquid and vapour.

Causes serious eye irritation.

**2.2. Label elements****GB CLP Regulation**

Signal word: Danger

Pictograms:



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#### Hazard statements

- H225 Highly flammable liquid and vapour.  
 H319 Causes serious eye irritation.

#### Precautionary statements

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P233 Keep container tightly closed.  
 P240 Ground and bond container and receiving equipment.  
 P241 Use explosion-proof electrical/ventilating/lighting equipment.  
 P242 Use non-sparking tools.  
 P243 Take action to prevent static discharges.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.  
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337+P313 If eye irritation persists: Get medical advice/attention.  
 P403+P235 Store in a well-ventilated place. Keep cool.

#### 2.3. Other hazards

In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.  
 The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
64-17-5	ethanol, ethyl alcohol			95 - <= 100 %
	200-578-6	603-002-00-5	01-2119457610-43	
	Flam. Liq. 2; Eye Irrit. 2; H225 H319			
95-45-4	Dimethylglyoxime			1 - < 5 %
	202-420-1			
	Flam. Sol. 1; H228			

Full text of H and EUH statements: see section 16.

##### Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
64-17-5	200-578-6	ethanol, ethyl alcohol	95 - <= 100 %
		inhalation: LC50 = 124,7 mg/l (vapours); oral: LD50 = >5000 mg/kg Eye Irrit. 2; H319: >= 50 - 100	
95-45-4	202-420-1	Dimethylglyoxime	1 - < 5 %
		oral: LD50 = 250 mg/kg	

#### Further Information

Product does not contain listed SVHC substances > 0,1 % according to Regulation (EC) No. 1907/2006 Article 59 (REACH)

### SECTION 4: First aid measures

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**4.1. Description of first aid measures****General information**

First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

**After inhalation**

Provide fresh air. If unconscious place in recovery position and seek medical advice. In case of allergic symptoms, especially in the breathing area, seek medical advice immediately.

**After contact with skin**

Wash with plenty of water. Take off contaminated clothing and wash it before reuse. In case of skin irritation, seek medical treatment.

**After contact with eyes**

Rinse immediately carefully and thoroughly with eye-bath or water. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**After ingestion**

Rinse mouth thoroughly with water. Let water be drunken in little sips (dilution effect). Seek medical advice.

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

Acute effects: Mucous membrane irritation after eye contact or inhalation.

Delayed effects: Impairment of inhibitory functions of the central nervous system, skin redness, nausea after ingestion of large amounts.

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

Treat symptomatically. Percutaneously absorbed and inhaled substance causes next to irritation of affected mucous membranes only an indicated impairment of the inhibitory functions of the central nervous system, clinically recognizable as the beginning of a euphoric stage. At the same time face and skin redness is caused by dilation of peripheral blood vessels in the body.

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**

Carbon dioxide (CO<sub>2</sub>). Dry extinguishing powder. alcohol resistant foam. Atomized water. Co-ordinate fire-fighting measures to the fire surroundings.

**Unsuitable extinguishing media**

High power water jet.

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

Highly flammable. Vapours can form explosive mixtures with air. Vapours are heavier than air and will spread at floor level.

Can be released in case of fire: Carbon monoxide Carbon dioxide (CO<sub>2</sub>). Nitrogen oxides (NO<sub>x</sub>).

**5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus. In case of fire and/or explosion do not breathe fumes. In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.

**Additional information**

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

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

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**General measures**

Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Remove all sources of ignition. Ventilate affected area. Special danger of slipping by leaking/spilling product.

**For non-emergency personnel**

Ventilate affected area. Remove all sources of ignition. Remove product from area of fire. Consult an expert. Move undamaged containers from immediate hazard area if it can be done safely.

**For emergency responders**

Move undamaged containers from immediate hazard area if it can be done safely. Remove all sources of ignition.

**6.2. Environmental precautions**

Do not allow uncontrolled discharge of product into the environment. Explosion risk. Do not allow to enter into surface water or drains. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Prevent spread over a wide area (e.g. by containment or oil barriers). In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

**6.3. Methods and material for containment and cleaning up****For containment**

Seal off the sewer. Collect, embank and pump out. Observe possible material restrictions (section 10). Provide earthing of containers, equipment, pumps and ventilation facilities.

**For cleaning up**

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal. Ventilate affected area. Clear contaminated areas thoroughly.

**6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

Provide adequate ventilation as well as local exhaust at critical locations. If handled uncovered, arrangements with local exhaust ventilation have to be used. In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Wear personal protection equipment. (See section 8.) Always close containers tightly after the removal of product.

**Advice on protection against fire and explosion**

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Use non-sparking tools. Vapours can form explosive mixtures with air. Flammable vapours can accumulate in head space of closed systems. Heating causes rise in pressure with risk of bursting. Have fire-extinguishers in readiness before opening containers. Wear anti-static footwear and clothing

**Advice on general occupational hygiene**

Ensure cleanliness and dryness in the workplace. Remove contaminated, saturated clothing immediately. Take off contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace. Street clothing should be stored separately from work clothing. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff. Always close containers tightly after the removal of product.

**Further information on handling**

General protection and hygiene measures: refer to chapter 8

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

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#### Requirements for storage rooms and vessels

Ensure adequate ventilation of the storage area. Provide adequate ventilation as well as local exhaust at critical locations. Keep container tightly closed. Keep in a cool, well-ventilated place. Store in a place accessible by authorized persons only. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep/Store only in original container. Protect against direct sunlight. Concentrated vapours are heavier than air. Suitable material for Container: Stainless steel, iron, solvent resistant plastics. Unsuitable materials for Container: Aluminium, Rubber, various plastics. Make sure spills can be contained, e.g. in sump pallets or kerbed areas.

#### Hints on joint storage

Do not store together with: food and feed, pharmaceuticals, Infectious substances, Radioactive substances, Explosive substances, Oxidizing substances, Oxidizing liquids, Organic peroxides, Self-reactive substances and mixtures, Pyrophoric solids, Substances which in contact with water form flammable gases, Ammonium nitrate and preparations containing ammonium nitrate, Gas, Flammable solids, Pyrophoric liquids and solids, Self-heating substances and mixtures, Non-combustible toxic substances.

#### Further information on storage conditions

Recommended storage temperature: 5-25°C

Protect against: UV-radiation/sunlight, heat, Cold.

Store in a cool dry place.

#### 7.3. Specific end use(s)

See section 1.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Exposure limits (EH40)

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
64-17-5	Ethanol	1000	1920		TWA (8 h)	WEL

##### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
64-17-5	ethanol, ethyl alcohol			
Worker DNEL, acute	inhalation	local	1900 mg/m <sup>3</sup>	
Worker DNEL, long-term	dermal	systemic	343 mg/kg bw/day	
Worker DNEL, long-term	inhalation	systemic	950 mg/m <sup>3</sup>	
Consumer DNEL, acute	inhalation	local	950 mg/m <sup>3</sup>	
Consumer DNEL, long-term	dermal	systemic	206 mg/kg bw/day	
Consumer DNEL, long-term	inhalation	systemic	114 mg/m <sup>3</sup>	
Consumer DNEL, long-term	oral	systemic	87 mg/kg bw/day	

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#### PNEC values

CAS No	Substance	
Environmental compartment		Value
64-17-5	ethanol, ethyl alcohol	
Freshwater		0,96 mg/l
Freshwater (intermittent releases)		2,75 mg/l
Marine water		0,79 mg/l
Marine water (intermittent releases)		2,75 mg/l
Freshwater sediment		3,6 mg/kg
Marine sediment		2,9 mg/kg
Secondary poisoning		0,72 mg/kg
Micro-organisms in sewage treatment plants (STP)		580 mg/l
Soil		0,63 mg/kg

#### 8.2. Exposure controls



##### Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. Provide adequate ventilation. If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means. Fire extinguishing equipment shall be provided. Provide washing facilities at the workplace, provide an eye shower or eyewash bottle and mark them. The floor should not have a floor drain.

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

##### Eye/face protection

Suitable eye protection: Tightly sealed safety glasses. Eye glasses with side protection. DIN EN 166

##### Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. In case of prolonged or frequently repeated skin contact:

Tested protective gloves are to be worn:

Suitable material:

Butyl rubber. 0,7 mm, penetration time (maximum wearing period):  $\geq 480$  min;

NBR (Nitrile rubber). 0,4 mm, Breakthrough time  $\geq 120$  min.

Before using check leak tightness / impermeability.

##### Skin protection

Protective clothing. Lab apron. (fire retardant.). Wear anti-static footwear and clothing

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500 (D).

##### Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required.

Respiratory protection necessary at: Insufficient ventilation. exceeding exposure limit values. generation/formation of aerosols.

Suitable respiratory protective equipment:

gas filtering equipment (EN 141). Type : A. Identification color: brown.

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates)

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that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

#### Thermal hazards

Flame-retardant protective clothing. Wear anti-static footwear and clothing

#### Environmental exposure controls

Do not allow to enter into surface water or drains. Make sure spills can be contained (e.g. sump pallets or kerbed areas).

## SECTION 9: Physical and chemical properties

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

Physical state:	liquid
Colour:	colourless
Odour:	characteristic

#### Changes in the physical state

Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	not determined
Sublimation point:	not determined
Softening point:	not determined
Pour point:	not determined
Flash point:	Ethanol: 12 °C

#### Flammability

Solid/liquid:	not applicable
Gas:	not applicable

#### Explosive properties

In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.  
 Vapours can travel considerable distances to a source of ignition where they can ignite, flash back, or explode.

Lower explosion limits:	Ethanol: 3,5
Upper explosion limits:	Ethanol: 15
Auto-ignition temperature:	Ethanol: 400 °C

#### Self-ignition temperature

Gas:	not determined
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Decomposition temperature:	not determined
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#### Oxidizing properties

Flammable.

pH-Value:	not determined
Viscosity / dynamic:	not determined
Viscosity / kinematic:	not determined
Flow time:	not determined
Water solubility:	not determined

#### Solubility in other solvents

not determined

Partition coefficient n-octanol/water:	not determined
Vapour pressure:	Ethanol: 58 hPa
Vapour pressure:	Ethanol: 293 hPa
Density (at 20 °C):	0,8 g/cm³

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Relative vapour density: not determined

**9.2. Other information****Other safety characteristics**

Solvent separation test: not determined

Solvent content: 98,99 %Ethanol.

Solid content: not determined

Evaporation rate: not determined

**Further Information****SECTION 10: Stability and reactivity****10.1. Reactivity**

Highly flammable. Thermal decomposition. Heating may cause a fire or explosion.

**10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

Chlorine, potassium, sodium, strong oxidising agents, nitric acid, calcium hypochlorite, halogen oxides, di-sulphur difluoride, acetic anhydride + salts + acids, isocyanates, potassium dioxide, perchlorates, potassium permanganate/sulphuric acid, sodium hypochlorite, sodium peroxide, nitrosyl perchlorate, peracids, perchloronitrile, mercury nitrate, oxygen (liquid), sulphuric acid + hydrogen peroxide, silver/nitric acid, silver nitrate, silver nitrate/ammonia, silver oxide/ammonia, nitrogen dioxide, hydrogen peroxide, conc. Alkali/alkaline earth metals, fluorine, reducing agents, acids, acetyl bromide, acetyl chloride, barium perchlorate, bromine trifluoride, cesium oxide, chromium trioxide, chromyl chloride, ethylene oxide, iodine heptafluoride, potassium tert-butoxide, potassium tert-butoxide. butoxide, lithium hydride, phosphorus trioxide, platinum black, nitric acid/potassium permanganate, acid anhydrides, uranium hexafluoride, zirconium (IV) chloride, zirconium (IV) iodide. Alkali metals. Alkaline earth metals. Reducing agents, strong.

**10.4. Conditions to avoid**

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air. Keep away from heat. Protect against direct sunlight. Protect from moisture. In use may form flammable/explosive vapour-air mixture.

Heating causes rise in pressure with risk of bursting.

**10.5. Incompatible materials**

Strong acid. Oxidizing agents. Alkali metals. Alkaline earth metals. Peroxides. phosphorus oxides. Nitrogen oxides (NOx). Hydrogen peroxide. Nitric acid. hydrochloric acid. Sulfuric acid. Perchlorates. Chromium oxides. Acid chlorides.

**10.6. Hazardous decomposition products**Can be released in case of fire: Carbon monoxide Carbon dioxide (CO<sub>2</sub>). Nitrogen oxides (NO<sub>x</sub>).**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in GB CLP Regulation****Toxicokinetics, metabolism and distribution****Adsorption.**

Ethanol has a low molecular weight and has a good water and fat solubility. Therefore it can be adsorbed well in the entire gastrointestinal tract, lungs and the skin. After swallowing approximately 90% is taken up via the gastrointestinal tract. When inhaled, this value is 61%. Because of the rapid evaporation of ethanol the dermal adsorption is very limited; theoretically 21% can be accommodated, however, the absorption rate of uncovered skin is only 1 to 2%.

**Distribution:**

Regardless of the exposure pathway ethanol is distributed via the bloodstream throughout the body,



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comparable to the distribution of water. Highly perfused organs (brain, lung and liver) are passed quickly. An equal distribution between tissue and blood is reached after 1 to 1.5 h.

#### metabolism:

Even before the absorption a small proportion of ethanol is enzymatically metabolized in the stomach (alcohol dehydrogenase). After absorption ethanol is preferably metabolized in the liver (92-95%) and partly in the kidneys and lungs. Metabolism occurs usually in three steps: 1. oxidation of ethanol to acetaldehyde; 2. oxidation of acetaldehyde to acetate; 3. oxidation of acetate to carbon dioxide and water

#### elimination:

The vast majority of ethanol is eliminated by metabolism, the excretion via breath, urine and sweat plays a minor role. The maximum elimination of ethanol is estimated on the 127 mg / kgbw / h.

#### Acute toxicity

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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
64-17-5	ethanol, ethyl alcohol				
	oral	LD50 >5000 mg/kg	Rat	ECHA Dossier	
	inhalation (4 h) vapour	LC50 124,7 mg/l	Rat	ECHA Dossier	
95-45-4	Dimethylglyoxime				
	oral	LD50 250 mg/kg	Rat	External SDS	

#### Irritation and corrosivity

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Irritant effect on the skin: slightly irritant but not relevant for classification.

Ethanol.: Specific concentration limit (SCL): Eye Irrit. 2 > 50%

#### Sensitising effects

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

The product is: not sensitising. The statement is derived from the properties of the components.

#### Carcinogenic/mutagenic/toxic effects for reproduction

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

Ethanol. (CAS-No.: 64-17-5):

In-vitro mutagenicity: No experimental indications of mutagenicity in-vitro exist.

Reproductive toxicity: Exposure time: 18 weeks; Species: CD-1 Mouse. Method: OECD Guideline 416; Result:

NOAEL = 20700 mg/kg/day. Developmental toxicity/teratogenicity: Exposure time: 19d; Species:

Sprague-Dawley Rat. Method: OECD Guideline 414; Result: NOAEL = 16000 ppm (maternal toxicity), Result:

NOAEL >= 20000 ppm (teratogenicity); Literature information: ECHA Dossier

#### STOT-single exposure

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

#### STOT-repeated exposure

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

Ethanol. (CAS-No.: 64-17-5):

Subchronic oral toxicity: Exposure time: 90d; Species: Sprague-Dawley Rat. Method: OECD Guideline 408;

Result: NOAEL = 1280 mg/kg; Literature information: ECHA Dossier

#### Aspiration hazard

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

#### Specific effects in experiment on an animal

@1718.B017281

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#### 11.2. Information on other hazards

##### Other information

Depending on the ingested quantity the following symptoms can be induced: a reduction of inhibitions, euphoria but also dysphoria, aggressiveness, impaired motoric skills, impaired responsiveness, blurred vision and fatigue.

##### Further information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ethanol. (CAS-No.: 64-17-5):

Acute earthworm toxicity: LC50 (48h) = <1mg/cm<sup>2</sup> (Eisenia fetida, non-guideline study)

Acute plant toxicity: EC50 (6d) = 11800 mg/l (Allium cepa, non-guideline study)

Sediment organisms: LC59 (18h) = 8200 mg/l (Hyallela sp, non-guideline study)

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
64-17-5	ethanol, ethyl alcohol					
	Acute fish toxicity	LC50 14200 mg/l	96 h	Pimephales promelas	ECHA Dossier	
	Acute algae toxicity	ErC50 275 mg/l	72 h	Chlorella vulgaris	ECHA Dossier	
	Acute crustacea toxicity	EC50 5012 mg/l	48 h	Ceriodaphnia dubia	ECHA Dossier	
	Crustacea toxicity	NOEC 9,6 mg/l	9 d	Daphnia magna	ECHA Dossier	

#### 12.2. Persistence and degradability

Ethanol. (CAS-No.: 64-17-5):

Chemical Oxygen Demand (COD): CSB = 1900 mg/g

Biochemical oxygen demand (BOD): BSB5 = 1000 mg/g

Abiotic degradation in water: Hydrolysis t 1/2 (20°C, pH 7) = >1 - <36 a.

Abiotic degradation in Air t 1/2 (Air.) = 38 d; 1/2 (Air. 100 ppm NO<sub>2</sub>) = 11,5 h

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
64-17-5	ethanol, ethyl alcohol			
	other guideline	84%	20	ECHA Dossier
	Biodegradable.			

#### 12.3. Bioaccumulative potential

The product has not been tested.

#### Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
64-17-5	ethanol, ethyl alcohol	-0,31
95-45-4	Dimethylglyoxime	-0,29

#### 12.4. Mobility in soil

Ethanol. (CAS-No.: 64-17-5):

Volatility Henry constant: 3,3\*10<sup>-6</sup> atm. m<sup>3</sup>/mol; dimension less 1,28\*10<sup>-4</sup> (Calculation method.)

Distribution: Calculation according to: Mackay, EPIWIN: Air. 45,0%; Water. 33,1%; soil: 13,7%; sediment: 0,1%

#### 12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

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#### Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. hazardous to water (WGK 2).

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

##### Disposal recommendations

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation. Consult the local waste disposal expert about waste disposal. According to (EWC) European Waste Catalogue, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process. Control report for waste code/ waste marking according to (EWC) European Waste Catalogue:

##### List of Wastes Code - residues/unused products

070104 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals; other organic solvents, washing liquids and mother liquors; hazardous waste

##### List of Wastes Code - used product

070104 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals; other organic solvents, washing liquids and mother liquors; hazardous waste

##### List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

##### Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

### SECTION 14: Transport information

#### Land transport (ADR/RID)

**14.1. UN number:** UN 1170  
**14.2. UN proper shipping name:** ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** II  
 Hazard label: 3



Classification code: F1  
 Special Provisions: 144 601  
 Limited quantity: 1 L  
 Excepted quantity: E2  
 Transport category: 2  
 Hazard No: 33  
 Tunnel restriction code: D/E

#### Inland waterways transport (ADN)

**14.1. UN number:** UN 1170  
**14.2. UN proper shipping name:** ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

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**14.3. Transport hazard class(es):** 3

**14.4. Packing group:** II

Hazard label: 3



Classification code: F1

Special Provisions: 144 601

Limited quantity: 1 L

Excepted quantity: E2

#### Marine transport (IMDG)

**14.1. UN number:** UN 1170

**14.2. UN proper shipping name:** ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

**14.3. Transport hazard class(es):** 3

**14.4. Packing group:** II

Hazard label: 3



Special Provisions: 144

Limited quantity: 1 L

Excepted quantity: E2

EmS: F-E, S-D

#### Air transport (ICAO-TI/IATA-DGR)

**14.1. UN number:** UN 1170

**14.2. UN proper shipping name:** ETHANOL SOLUTION

**14.3. Transport hazard class(es):** 3

**14.4. Packing group:** II

Hazard label: 3



Special Provisions: A3 A58 A180

Limited quantity Passenger: 1 L

Passenger LQ: Y341

Excepted quantity: E2

IATA-packing instructions - Passenger: 353

IATA-max. quantity - Passenger: 5 L

IATA-packing instructions - Cargo: 364

IATA-max. quantity - Cargo: 60 L

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

#### 14.6. Special precautions for user

Warning: Combustible liquid. Refer to section 6-8

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

not relevant

### SECTION 15: Regulatory information

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**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40

2010/75/EU (VOC): 98,99 %

2004/42/EC (VOC): 100 %

Information according to 2012/18/EU (SEVESO III): P5c FLAMMABLE LIQUIDS

**Additional information**

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

REACH 1907/2006 Appendix XVII, No (mixture): 3, 40, 75; BedGgstV: Annex.1 §3, Nr. 1, 5.

**National regulatory information**

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D): 2 - obviously hazardous to water

**15.2. Chemical safety assessment**

Chemical safety assessments for substances in this mixture were not carried out.

**SECTION 16: Other information****Changes**

Rev. 1.00; 16.07.2021 Initial release.

**Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route

AwSV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen

AGW: Arbeitsplatzgrenzwert

AVV: Abfallverzeichnisverordnung

CAS Chemical Abstracts Service

CLP: Classification, Labelling and Packaging of substances and mixtures

DNEL: Derived No Effect Level

d: day(s)

EAKV: Europäisches Abfallverzeichnis gemäß Entwurf Abfallverzeichnisverordnung

EINECS: European INventory of Existing Commercial chemical Substances

ELINCS: European List of Notified Chemical Substances

ECHA: European Chemicals Agency

EWC: European Waste Catalogue

IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)

h: hour

LOAEL: Lowest observed adverse effect level

LOAEC: Lowest observed adverse effect concentration

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NOAEL: No observed adverse effect level

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NOAEC: No observed adverse effect level  
 NLP: No-Longer Polymers  
 N/A: not applicable  
 OECD: Organisation for Economic Co-operation and Development  
 PNEC: predicted no effect concentration  
 PBT: Persistent bioaccumulative toxic  
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail )  
 REACH: Registration, Evaluation, Authorisation of Chemicals  
 SVHC: substance of very high concern  
 TRGS Technische Regeln fuer Gefahrstoffe  
 UN: United Nations  
 VOC: Volatile Organic Compounds  
 VwVwS: Verwaltungsvorschrift wassergefaehrdender Stoffe  
 WGK: Wassergefaehrdungsklasse  
 CLP: Classification, labelling and Packaging  
 REACH: Registration, Evaluation and Authorization of Chemicals  
 GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals  
 UN: United Nations  
 CAS: Chemical Abstracts Service  
 DNEL: Derived No Effect Level  
 DMEL: Derived Minimal Effect Level  
 PNEC: Predicted No Effect Concentration  
 ATE: Acute toxicity estimate  
 LL50: Lethal loading, 50%  
 EL50: Effect loading, 50%  
 EC50: Effective Concentration 50%  
 ErC50: Effective Concentration 50%, growth rate  
 NOEC: No Observed Effect Concentration  
 BCF: Bio-concentration factor  
 PBT: persistent, bioaccumulative, toxic  
 vPvB: very persistent, very bioaccumulative  
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 RID: Regulations concerning the international carriage of dangerous goods by rail  
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)  
 EmS: Emergency Schedules  
 MFAG: Medical First Aid Guide  
 MARPOL: International Convention for the Prevention of Marine Pollution from Ships  
 IBC: Intermediate Bulk Container  
 For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>

#### Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Flam. Liq. 2; H225	Calculation method
Eye Irrit. 2; H319	Calculation method

#### Relevant H and EUH statements (number and full text)

H225 Highly flammable liquid and vapour.  
 H228 Flammable solid.  
 H319 Causes serious eye irritation.

#### Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible

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for adhering to existing laws and regulations. Classification according to Regulation (EC) No 1272/2008 [CLP]

- Classification procedure:

Health hazards: Calculation method.

Environmental hazards: Calculation method.

Physical hazards: On basis of test data and / or calculated and / or estimated.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*