

Safety Data Sheet

according to UK REACH Regulation

SCHAFFER's Fixative (Formaline Ethanol)

Revision date: 26.07.2023

Product code: 12427.xxxxx

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

SCHAFFER's Fixative (Formaline Ethanol)

UFI: 2XD3-X16J-7007-4PTT

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

Company name:	MORPHISTO GmbH	
Street:	Schumannstr. 142/144	
Place:	D-63069 Offenbach	
Telephone:	+49 (0) 69 / 400 3019-60	Telefax: +49 (0) 69 / 400 3019-64
E-mail:	info@morphisto.de	
Contact person:	Morphisto GmbH	
E-mail:	gefahrstoffmanagement@morphisto.de	
Internet:	http://www.morphisto.de	

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**

Flam. Liq. 2; H225
Acute Tox. 4; H302
Acute Tox. 4; H332
Skin Irrit. 2; H315
Eye Irrit. 2; H319
Skin Sens. 1; H317
Muta. 2; H341
Carc. 1B; H350
STOT SE 3; H335

Full text of hazard statements: see SECTION 16.

2.2. Label elements**GB CLP Regulation****Hazard components for labelling**formaldehyde %
methanol**Signal word:** Danger**Pictograms:****Hazard statements**

H225 Highly flammable liquid and vapour.
H302+H332 Harmful if swallowed or if inhaled.

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H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H350	May cause cancer.

Precautionary statements

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing Vapour.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.

Special labelling of certain mixtures

Restricted to professional users.

Labelling of packages where the contents do not exceed 125 ml**Signal word:** Danger**Pictograms:****Hazard statements**

H317-H341-H350

Precautionary statements

P201-P261-P280

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulating and toxic (PBT) or very persistent and very bioaccumulating (vPvB) at levels of 0.1% or higher. Ecological information: The substance/mixture does not contain any components that are considered to be hazardous according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in amounts of 0.1 % or more have endocrine disrupting properties. Toxicological information: The substance/mixture does not contain any components that are to be classified according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in quantities of 0.1 % or more have endocrine disrupting properties.

SECTION 3: Composition/information on ingredients**3.2. Mixtures**

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Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
64-17-5	Ethanol, Ethylalkohol			70 - < 75 %
	200-578-6	603-002-00-5	01-2119457610-43	
	Flam. Liq. 2, Eye Irrit. 2; H225 H319			
50-00-0	formaldehyde ... %			5 - < 10 %
	200-001-8	605-001-00-5	01-2119488953-20	
	Carc. 1B, Muta. 2, Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, Skin Corr. 1B, Skin Sens. 1; H350 H341 H331 H311 H301 H314 H317			
67-56-1	methanol			1 - < 5 %
	200-659-6	603-001-00-X	01-2119433307-44	
	Flam. Liq. 2, Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, STOT SE 1; H225 H331 H311 H301 H370			
78-93-3	butanone			< 1 %
	201-159-0	606-002-00-3	01-2119457290-43	
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066			

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, Ethylalkohol	70 - < 75 %
		inhalation: LC50 = 124,7 mg/l (vapours); dermal: LD50 = >2000 mg/kg; oral: LD50 = >5000 mg/kg Eye Irrit. 2; H319: >= 50 - 100	
50-00-0	200-001-8	formaldehyde ... %	5 - < 10 %
		inhalation: LC50 = <463 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: ATE = 300 mg/kg; oral: LD50 = 640 mg/kg Skin Corr. 1B; H314: >= 25 - 100 Skin Irrit. 2; H315: >= 5 - < 25 Eye Irrit. 2; H319: >= 5 - < 25 Skin Sens. 1; H317: >= 0,2 - 100 STOT SE 3; H335: >= 5 - 100	
67-56-1	200-659-6	methanol	1 - < 5 %
		inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: LD50 = 17100 mg/kg; oral: LD50 = 2528 mg/kg STOT SE 1; H370: >= 10 - 100 STOT SE 2; H371: >= 3 - < 10	
78-93-3	201-159-0	butanone	< 1 %
		dermal: LD50 = >2000 mg/kg; oral: LD50 = 2054 mg/kg	

Further Information

This product contains no substances of very high concern (SVHC) (>0,1%) which are included in the Candidate List according to Article 59 of REACH.

SECTION 4: First aid measures

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 breathing is irregular or stopped, administer artificial respiration. Medical treatment necessary. If unconscious but breathing normally, place in recovery position and seek medical advice. In case of allergic symptoms, especially in the breathing area, seek medical advice immediately.

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After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. In case of skin irritation, seek medical treatment.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. Rinse immediately carefully and thoroughly with eye-bath or water. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor.

After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Observe risk of aspiration if vomiting occurs. Rinse mouth thoroughly with water. Let water be drunk in little sips (dilution effect).

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. Gastric lavage, if the product was taken orally. Gastric lavage should be carried out because of risk of aspiration only under endotracheal intubation. Pneumonia, infection prophylaxis, more symptomatic, in particular control of the acid-base metabolism.

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

Water spray jet, Carbon dioxide (CO₂), Foam, Extinguishing powder. 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. In case of fire may be liberated: Carbon monoxide Carbon dioxide (CO₂). Formaldehyde

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit. In case of fire and/or explosion do not breathe fumes.

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****General advice**

Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment. (refer to chapter 8) Ventilate affected area. Special danger of slipping by leaking/spilling product.

Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

For non-emergency personnel

Ventilate affected area. Clear danger zone. Follow emergency plan. Consult an expert.

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For emergency responders

Move undamaged containers from immediate hazard area if it can be done safely. Special protective equipment for firefighters Stop and contain spill/release if it can be done safely. If this cannot be done, allow fire to burn under control.

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**

Cover drains. Collect, embank and pump out. Observe possible material restrictions (section 10).

For cleaning up

Absorb with liquid-binding material (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**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Provide adequate ventilation as well as local exhaustion at critical locations. Use extractor hood (laboratory). Avoid contact with skin, eyes and clothes. Always close containers tightly after the removal of product. Wear personal protection equipment. (See section 8.)

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Vapours can form explosive mixtures with air. Flammable vapours can accumulate in head space of closed systems. Use only antistatically equipped (spark-free) tools. Wear anti-static footwear and clothing. Have fire-extinguishers in readiness before opening containers.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. 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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing prior to re-use. Street clothing should be stored separately from work clothing.

Further information on handling

General protection and hygiene measures: refer to chapter 8

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed in a cool, well-ventilated place. Keep/Store only in original container. Ensure adequate ventilation of the storage area. Concentrated vapours are heavier than air. Make sure spills can be contained, e.g. in sump pallets or kerbed areas.

Suitable material for Container: Stainless steel.iron.solvent resistant plastics. Unsuitable materials for Container: Aluminium. Rubber. various plastics.

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Hints on joint storage

Do not store together with: Oxidizing agent. Pyrophoric or self-heating substances. 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. Substances or mixtures which, in contact with water, emit flammable gases. Non-combustible toxic substances.

Further information on storage conditions

Recommended storage temperature: 15-25 °C.

Protect against: UV-radiation/sunlight. heat. Cold. Protect from direct sunlight.

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 ³	fibres/ml	Category	Origin
78-93-3	Butan-2-one (methyl ethyl ketone)	200	600		TWA (8 h)	WEL
		300	899		STEL (15 min)	WEL
64-17-5	Ethanol	1000	1920		TWA (8 h)	WEL
50-00-0	Formaldehyde	2	2.5		TWA (8 h)	WEL
		2	2.5		STEL (15 min)	WEL
67-56-1	Methanol	200	266		TWA (8 h)	WEL
		250	333		STEL (15 min)	WEL

Biological Monitoring Guidance Values (EH40)

CAS No	Substance	Parameter	Value	Test material	Sampling time
78-93-3	Butan-2-one	butan-2-one	70 µmol/L	urine	Post shift

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DNEL/DMEL values

CAS No	Substance		
DNEL type	Exposure route	Effect	Value
64-17-5	Ethanol, Ethylalkohol		
Worker DNEL, acute	inhalation	local	1900 mg/m ³
Worker DNEL, long-term	dermal	systemic	343 mg/kg bw/day
Worker DNEL, long-term	inhalation	systemic	950 mg/m ³
Consumer DNEL, acute	inhalation	local	950 mg/m ³
Consumer DNEL, long-term	dermal	systemic	206 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	114 mg/m ³
Consumer DNEL, long-term	oral	systemic	87 mg/kg bw/day
50-00-0	formaldehyde ... %		
Worker DNEL, acute	inhalation	systemic	1 mg/m ³
Worker DNEL, long-term	dermal	systemic	240 mg/kg bw/day
Worker DNEL, long-term	inhalation	systemic	0,5 mg/m ³
Worker DNEL, long-term	inhalation	local	0,375 mg/m ³
Worker DNEL, acute	inhalation	local	0,75 mg/m ³
Worker DNEL, long-term	dermal	local	0,037 mg/cm ²
67-56-1	methanol		
Worker DNEL, acute	inhalation	local	260 mg/m ³
Worker DNEL, acute	dermal	systemic	40 mg/kg bw/day
Worker DNEL, acute	inhalation	systemic	260 mg/m ³
Worker DNEL, long-term	inhalation	local	260 mg/m ³
Worker DNEL, long-term	dermal	systemic	40 mg/kg bw/day
Worker DNEL, long-term	inhalation	systemic	260 mg/m ³

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PNEC values

CAS No	Substance	Value
Environmental compartment		
64-17-5	Ethanol, Ethylalkohol	
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
50-00-0	formaldehyde ... %	
Freshwater		0,44 mg/l
Freshwater (intermittent releases)		4,44 mg/l
Marine water		0,44 mg/l
Freshwater sediment		2,3 mg/kg
Marine sediment		2,3 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,19 mg/l
Soil		0,2 mg/kg
67-56-1	methanol	
Freshwater		20,8 mg/l
Marine water		2,08 mg/l
Marine water (intermittent releases)		1540 mg/l
Freshwater sediment		77 mg/kg
Marine sediment		7,7 mg/kg
Micro-organisms in sewage treatment plants (STP)		100 mg/l
Soil		3,18 mg/kg

8.2. Exposure controls

Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Technical measures and the application of suitable work processes have priority over personal protective equipment. Provide adequate ventilation as well as local exhaust at critical locations. Process within closed systems.:Use extractor hood (laboratory). Provide washing facilities at the workplace, provide an eye shower or eyewash bottle and mark them. Have fire-extinguishers in readiness before opening containers.

Individual protection measures, such as personal protective equipment
Eye/face protection

Suitable eye protection: goggles. Tightly sealed safety glasses. EN 166.

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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. Tested protective gloves are to be worn:

Recommended material:

Butyl rubber. (0,7 mm, Breakthrough time ≥ 480 min,

FKM (fluoro rubber) (0,4 mm, Breakthrough time ≥ 480 min.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Before using check leak tightness / impermeability.

Skin protection

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

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

Respiratory protection

In case of inadequate ventilation wear 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).A; Identification color: brown. or

Self-contained respirator (breathing apparatus).

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.Do not allow uncontrolled discharge of product into the environment.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	liquid	
Colour:	colourless	
Odour:	stinging	
Melting point/freezing point:		not determined
Boiling point or initial boiling point and boiling range:		78 °C
Flammability:		not determined
Lower explosion limits:		3,1 vol. %
Upper explosion limits:		73 vol. %
Flash point:		12 °C
Auto-ignition temperature:		400 °C
Decomposition temperature:		not determined
pH-Value:		not determined
Viscosity / kinematic:		not determined
Water solubility: (at 20 °C)		completely miscible
Solubility in other solvents		not determined
Partition coefficient n-octanol/water:		not determined

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Vapour pressure: (at 20 °C)	58 hPa
Vapour pressure: (at 50 °C)	293 hPa
Density (at 20 °C):	0,77 g/cm ³
Relative vapour density:	not determined
Particle characteristics:	not applicable

9.2. Other information**Information with regard to physical hazard classes****Explosive properties**

The product is not: Explosive. 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.

Self-ignition temperature

Gas: not determined

Oxidizing properties

Combustible. Vapours may form explosive mixtures with air.

Other safety characteristics

Evaporation rate:	not determined
Solvent separation test:	not determined
Solid content:	not determined
Sublimation point:	not determined
Softening point:	not determined
Pour point:	not determined
Viscosity / dynamic:	not determined
Flow time:	not determined

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

Highly flammable. Vapours may form explosive mixtures with air. Thermal decomposition.

10.2. Chemical stability

Stable under normal storage and handling conditions.

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.

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 from 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

Materials to avoid: Nitrogen oxides (NOx). Nitric acid. Hydrogenium peroxide. Aniline. Performic acid, perchloric acid Oxidizing agents, strong. Strong acid.

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10.6. Hazardous decomposition products

 In case of fire may be liberated: Carbon monoxide Carbon dioxide (CO₂). Formaldehyde

SECTION 11: Toxicological information
11.1. Information on hazard classes as defined in GB CLP Regulation
Acute toxicity

Harmful if swallowed.

Harmful if inhaled.

ATEmix calculated

ATE (oral) 859,0 mg/kg; ATE (dermal) 2577 mg/kg; ATE (inhalation vapour) 25,77 mg/l; ATE (inhalation dust/mist) 4,295 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
64-17-5	Ethanol, Ethylalkohol				
	oral	LD50 >5000 mg/kg	Rat	ECHA Dossier	
	dermal	LD50 >2000 mg/kg	Rabbit	ECHA Dossier	
	inhalation (4 h) vapour	LC50 124,7 mg/l	Rat	ECHA Dossier	
50-00-0	formaldehyde ... %				
	oral	LD50 640 mg/kg	Rat	ECHA	OECD 401
	dermal	ATE 300 mg/kg			
	inhalation (4 h) vapour	LC50 <463 mg/l	Rat	ECHA	
	inhalation dust/mist	ATE 0,5 mg/l			
67-56-1	methanol				
	oral	LD50 2528 mg/kg	Rat	ECHA Dossier	
	dermal	LD50 17100 mg/kg	Rabbit	ECHA Dossier	
	inhalation vapour	ATE 3 mg/l			
	inhalation dust/mist	ATE 0,5 mg/l			
78-93-3	butanone				
	oral	LD50 2054 mg/kg	Ratte	SDB Lieferant	
	dermal	LD50 >2000 mg/kg	Rabbit	ECHA Dossier	

Irritation and corrosivity

Causes skin irritation.

Causes serious eye irritation.

Sensitising effects

May cause an allergic skin reaction. (formaldehyde ... %)

Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of causing genetic defects. (formaldehyde ... %)

May cause cancer. (formaldehyde ... %)

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

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STOT-single exposure

May cause respiratory irritation. (formaldehyde ... %)

STOT-repeated exposure

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

Aspiration hazard

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

11.2. Information on other hazards

Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

Other information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP]. Special hazards arising from the substance or mixture! 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.

SECTION 12: Ecological information

12.1. Toxicity

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

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
64-17-5	Ethanol, Ethylalkohol					
	Acute fish toxicity	LC50 mg/l	14200	96 h	Pimephales promelas (fathead minnow)	ECHA Dossier
	Acute algae toxicity	ErC50 mg/l	275 mg/l	72 h	Chlorella vulgaris	ECHA Dossier
	Acute crustacea toxicity	EC50 mg/l	5012	48 h	Ceriodaphnia dubia (water flea)	ECHA Dossier
	Crustacea toxicity	NOEC	9,6 mg/l	9 d	Daphnia magna	ECHA Dossier
50-00-0	formaldehyde ... %					
	Acute fish toxicity	LC50 mg/l	24,1	96 h	Pimephales promelas	ECHA Dossier
	Acute algae toxicity	ErC50 mg/l	4,89	72 h	Desmodesmus subspicatus	ECHA Dossier
	Acute crustacea toxicity	EC50 mg/l	5,8 mg/l	48 h	Daphnia pulex (water flea)	ECHA Dossier
67-56-1	methanol					
	Acute fish toxicity	LC50 mg/l	15400	96 h	Lepomis macrochirus	ECHA Dossier
	Acute algae toxicity	ErC50 mg/l	22000	96 h	Pseudokirchneriella subcapitata	ECHA Dossier
	Acute crustacea toxicity	EC50 mg/l	>1000	48 h	Daphnia magna	ECHA Dossier OECD 202
78-93-3	butanone					
	Acute fish toxicity	LC50 mg/l	2993	96 h	Pimephales promelas	ECHA Dossier OECD 203
	Acute algae toxicity	ErC50 mg/l	1972	72 h	Pseudokirchnerella subcapitata	ECHA Dossier OECD 201
	Acute crustacea toxicity	EC50 mg/l	308 mg/l	48 h	Daphnia magna	ECHA Dossier OECD 202

12.2. Persistence and degradability

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CAS No	Chemical name	Method	Value	d	Source
		Evaluation			
64-17-5	Ethanol, Ethylalkohol				
	other guideline		84%	20	ECHA Dossier
	Biodegradable.				
50-00-0	formaldehyde ... %				
	OECD Guideline 301 C		91 %	14	ECHA Dossier
	Easily biodegradable (concerning to the criteria of the OECD)				
	OECD Guideline 301 D		90	28	ECHA Dossier
	Product is biodegradable.				
67-56-1	methanol				
	other guideline		96%	20	ECHA Dossier
	Easily biodegradable (concerning to the criteria of the OECD)				
78-93-3	butanone				
			98%	28	ECHA Dossier
	Readily biodegradable (according to OECD criteria).				

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, Ethylalkohol	-0,31
50-00-0	formaldehyde ... %	0,35
67-56-1	methanol	-0,77
78-93-3	butanone	0,3

BCF

CAS No	Chemical name	BCF	Species	Source
67-56-1	methanol	<10		

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

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

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

The product has not been tested.

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

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

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(EWC) European Waste Catalogue:

List of Wastes Code - residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

List of Wastes Code - used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; 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

Hazardous waste according to Directive 2008/98/EC (waste framework directive). Handle contaminated packages in the same way as the substance itself. Non-contaminated packages may be recycled.

SECTION 14: Transport information
Land transport (ADR/RID)

14.1. UN number or ID number: UN 1993
14.2. UN proper shipping name: FLAMMABLE LIQUID, N.O.S. (Ethanol, Methanol)
14.3. Transport hazard class(es): 3
14.4. Packing group: II
 Hazard label: 3



Classification code: F1
 Special Provisions: 274 601 640D
 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 or ID number: UN 1993
14.2. UN proper shipping name: FLAMMABLE LIQUID, N.O.S. (Ethanol, Methanol)
14.3. Transport hazard class(es): 3
14.4. Packing group: II
 Hazard label: 3



Classification code: F1
 Special Provisions: 274 601 640D
 Limited quantity: 1 L
 Excepted quantity: E2

Marine transport (IMDG)

14.1. UN number or ID number: UN 1993
14.2. UN proper shipping name: FLAMMABLE LIQUID, N.O.S. (Ethanol, Methanol)

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14.3. Transport hazard class(es): 3

14.4. Packing group: II

Hazard label: 3



Marine pollutant: NO

Special Provisions: 274

Limited quantity: 1 L

Excepted quantity: E2

EmS: F-E, S-E

Air transport (ICAO-TI/IATA-DGR)
14.1. UN number or ID number: UN 1993

14.2. UN proper shipping name: FLAMMABLE LIQUID, N.O.S. (Ethanol, Methanol)

14.3. Transport hazard class(es): 3

14.4. Packing group: II

Hazard label: 3



Special Provisions: A3

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
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, Entry 75

2010/75/EU (VOC): 86,872 % (668,914 g/l)

2004/42/EC (VOC): 86,872 % (668,914 g/l)

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

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.

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Water hazard class (D): 3 - highly hazardous to water
Skin resorption/Sensitization: Causes allergic hypersensitivity reactions.

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:

Ethanol, Ethylalkohol
formaldehyde ... %
methanol
butanone

SECTION 16: Other information**Changes**

This data sheet contains changes from the previous version in section(s): 2,3,4,5,7,8,9,11,12,15,16.

Rev. 2,0, 11.06.2023; Individual safety data sheet based on 11874_collect

Rev. 2,1; 26.07.2023; general adjustment(s)

Abbreviations and acronyms

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

CAS Chemical Abstracts Service

DNEL: Derived No Effect Level

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)

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

NOAEC: No observed adverse effect level

NTP: National Toxicology Program

N/A: not applicable

OSHA: Occupational Safety and Health Administration

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)

SARA: Superfund Amendments and Reauthorization Act

SVHC: substance of very high concern

TRGS Technische Regeln fuer Gefahrstoffe

TSCA: Toxic Substances Control Act

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

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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>
 For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety
 assessment, chapter R.20 (Table of terms and abbreviations).

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

Classification	Classification procedure
Flam. Liq. 2; H225	On basis of test data
Acute Tox. 4; H302	Calculation method
Acute Tox. 4; H332	Calculation method
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method
Skin Sens. 1; H317	Calculation method
Muta. 2; H341	Calculation method
Carc. 1B; H350	Calculation method
STOT SE 3; H335	Calculation method

Relevant H and EUH statements (number and full text)

H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H302+H332	Harmful if swallowed or if inhaled.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H370	Causes damage to organs.
EUH066	Repeated exposure may cause skin dryness or cracking.

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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 for adhering to existing laws and regulations. Classification according EC regulation 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.

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