

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Diethylether-Fixiergemisch

Revision date: 21.02.2017

Product code: 15274.xxxxx

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

1.1. Product identifier

Diethylether-Fixiergemisch

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

Use of the substance/mixture

Use as laboratory reagent.

Uses advised against

Any non-intended use.

1.3. Details of the supplier of the safety data sheet

Company name:	MORPHISTO GmbH	
Street:	Weismüllerstr. 45	
Place:	D-60314 Frankfurt am Main	
Telephone:	+49 (0) 69 / 400 3019-60	Telefax: +49 (0) 69 / 400 3019-64
e-mail:	info@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

Regulation (EC) No. 1272/2008

Hazard categories:

Flammable liquid: Flam. Liq. 1

Serious eye damage/eye irritation: Eye Irrit. 2

Respiratory or skin sensitisation: Skin Sens. 1

Germ cell mutagenicity: Muta. 2

Carcinogenicity: Carc. 1B

Hazard Statements:

Extremely flammable liquid and vapour.

Causes serious eye irritation.

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May cause cancer.

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling

Formaldehyde >=37 %

Signal word: Danger

Pictograms:



Hazard statements

H224	Extremely flammable liquid and vapour.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H341	Suspected of causing genetic defects.
H350	May cause cancer.

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Precautionary statements

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to local/regional/national/international regulations.

Special labelling of certain mixtures

EUH019	May form explosive peroxides.
EUH066	Repeated exposure may cause skin dryness or cracking. Restricted to professional users.

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	60 - < 65 %
	200-578-6	603-002-00-5
	01-2119457610-43	
	Flam. Liq. 2, Eye Irrit. 2; H225 H319	
60-29-7	diethyl ether; ether	15 - < 20 %
	200-467-2	603-022-00-4
	01-2119535785-29	
	Flam. Liq. 1, Acute Tox. 4, STOT SE 3; H224 H302 H336 EUH019 EUH066	
64-19-7	acetic acid 99 %	5 - < 10 %
	200-580-7	607-002-00-6
	Flam. Liq. 3, Skin Corr. 1A; H226 H314	
50-00-0	Formaldehyde ... %	1 - < 5 %
	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, Eye Dam. 1, Skin Sens. 1; H350 H341 H331 H311 H301 H314 H318 H317	
67-56-1	methanol	< 1 %
	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	

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

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
4.1. Description of first aid measures

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General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Remove contaminated, saturated clothing immediately.

After inhalation

@1501.B015819 Get immediate medical advice/attention.

After contact with skin

Take off immediately all contaminated clothing. @0403.B004101 Get immediate medical advice/attention.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. Get immediate medical advice/attention.

After ingestion

Rinse mouth thoroughly with water. Let water be drunken in little sips (dilution effect). Do NOT induce vomiting.

Get immediate medical advice/attention.

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

No information available.

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

Treat symptomatically.

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

Water spray. alcohol resistant foam. dry extinguishing powder. Carbon dioxide (CO₂).

In case of major fire and large quantities: Water spray jet. alcohol resistant foam.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Can be released in case of fire: Carbon monoxide (CO). Carbon dioxide (CO₂). Formaldehyde.

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.

Additional information

Use water spray jet to protect personnel and to cool endangered containers.

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**

Remove all sources of ignition. @1501.B150087 Ventilate affected area. Remove persons to safety.

Avoid contact with skin, eyes and clothes. @1501.B015718

Wear personal protection equipment. (See section 8.)

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Eliminate leaks immediately. 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

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.

The contaminated area should be cleaned up immediately with: a concentrated aqueous sodium bisulfite solution. Rinse with water.

6.4. Reference to other sections

Safe handling: see section 7

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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

Technical ventilation of workplace.

Wear suitable protective clothing. (See section 8.)

Avoid exposure - obtain special instructions before use.

Avoid contact with skin, eyes and clothes. @1501.B015718

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharges.

Further information on handling

Flammable vapours can accumulate in head space of closed systems.

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 locked up. Keep container tightly closed and in a well-ventilated place. Recommended storage temperature: 15-25°C

Unsuitable materials for Container: @0102.B010400

Hints on joint storage

Do not store together with: Gas. Explosives. Flammable solids. Pyrophoric liquids and solids. Self-heating substances and mixtures. Substances or mixtures which, in contact with water, emit flammable gases.

Oxidizing liquids. Oxidizing solids. ammonium nitrate. Self-reactive substances and mixtures. Organic peroxides. Non-combustible toxic substances. Radioactive substances. Infectious substances.

Further information on storage conditions

Keep/Store only in original container. Ensure adequate ventilation of the storage area. Store small packages in a suitable, robust cabinet.

Protect against: UV-radiation/sunlight., Heat

7.3. Specific end use(s)

See section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
64-19-7	Acetic acid	10	25		TWA (8 h)	EU
		15	37		STEL (15 min)	EU
78-93-3	Butan-2-one (methyl ethyl ketone)	200	600		TWA (8 h)	WEL
		300	899		STEL (15 min)	WEL
60-29-7	Diethyl ether	100	310		TWA (8 h)	WEL
		200	620		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
67-63-0	Propan-2-ol	400	999		TWA (8 h)	WEL
		500	1250		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	Exposure route	Effect	Value
64-17-5	ethanol, ethyl alcohol			
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
60-29-7	diethyl ether; ether			
Worker DNEL, long-term		inhalation	systemic	308 mg/m ³
Worker DNEL, acute		inhalation	systemic	616 mg/m ³
Worker DNEL, long-term		dermal	systemic	44 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	54.5 mg/m ³
Consumer DNEL, long-term		dermal	systemic	15.6 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	15.6 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
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol			
Worker DNEL, long-term		inhalation	systemic	500 mg/m ³
Consumer DNEL, long-term		inhalation	systemic	89 mg/m ³
Worker DNEL, long-term		dermal	systemic	888 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	26 mg/kg bw/day
Consumer DNEL, long-term		dermal	systemic	319 mg/kg bw/day
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, 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
60-29-7	diethyl ether; ether	
Freshwater		2 mg/l
Freshwater (intermittent releases)		1.65 mg/l
Marine water		0.2 mg/l
Freshwater sediment		9.14 mg/kg
Marine sediment		0.914 mg/kg
Micro-organisms in sewage treatment plants (STP)		4.2 mg/l
Soil		0.66 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
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol	
Freshwater		140,9 mg/l
Marine water		140,9 mg/l
Freshwater sediment		552 mg/kg
Marine sediment		552 mg/kg
Secondary poisoning		160 mg/kg
Soil		28 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

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Soil	3,18 mg/kg
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8.2. Exposure controls

Appropriate engineering controls

Technical ventilation of workplace.

Protective and hygiene measures

Always close containers tightly after the removal of product. When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work. Remove contaminated clothing immediately and dispose off safely. Wash contaminated clothing prior to re-use. Used working clothes should not be worn outside the work area. Street clothing should be stored separately from work clothing. Protect skin by using skin protective cream.

Eye/face protection

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

Hand protection

Wear suitable gloves. Suitable material:

Multilayer glove - PE / EVAL / PE (PE = polyethylene, EVAL = ethylene vinyl alcohol copolymer)

 Breakthrough time ≥ 8 h

Before using check leak tightness / impermeability.

In the case of wanting to use the gloves again, clean them before taking off and air them well.

Skin protection

Wear fire resistant or flame retardant clothing.

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

Respiratory protection

Respiratory protection necessary at:

Insufficient ventilation.

insufficient absorption.

exceeding exposure limit values.

Suitable respiratory protective equipment: Protective respiration apparatus not using surrounding air (breathing apparatus) (DIN EN 133).

Environmental exposure controls

@1501.B015774

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

Physical state:	liquid	
Colour:	colourless	
Odour:	characteristic	
pH-Value:		not determined

Changes in the physical state

Melting point:		not determined
Initial boiling point and boiling range:	Diethyl ether: 34,6 °C	
Pour point:		not determined
Flash point:		<0 °C

Explosive properties

@1501.B015511

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Lower explosion limits:	Diethyl ether: 1,7 vol. %
Upper explosion limits:	Diethyl ether: 39,2 vol. %
Oxidizing properties	
none	
Vapour pressure: (at 20 °C)	Diethyl ether: 586 hPa
Vapour pressure: (at 50 °C)	Diethyl ether: 1698 hPa
Density:	0,81 g/cm ³
Water solubility:	partially miscible
Viscosity / dynamic:	not determined
Viscosity / kinematic:	not determined
Solvent content:	<90%

9.2. Other information

Solid content:	not determined
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SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

@1001.B010045 May form explosive peroxides.
Heating causes rise in pressure with risk of bursting.

10.4. Conditions to avoid

In case of warming: Ignition hazard. @1501.B015511

10.5. Incompatible materials

Materials to avoid: Substances which in contact with water, emit flammable gases. Oxidizing agents, strong.
Reducing agents, strong. Strong acid.

10.6. Hazardous decomposition products

Can be released in case of fire: Carbon monoxide (CO). Carbon dioxide (CO₂). Formaldehyde.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicokinetics, metabolism and distribution

No information available.

Acute toxicity

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

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
64-17-5	ethanol, ethyl alcohol				
	oral	LD50 mg/kg >5000	Rat	ECHA Dossier	
	inhalation (4 h) vapour	LC50 mg/l 124,7	Rat	ECHA Dossier	
60-29-7	diethyl ether; ether				
	oral	LD50 mg/kg 1200	Rat	ECHA Dossier	OECD Guideline 401
	dermal	LD50 mg/kg > 20000	Rabbit	ECHA Dossier	OECD Guideline 402
64-19-7	acetic acid 99 %				
	oral	LD50 mg/kg 3310	Rat	RTECS	
50-00-0	Formaldehyde ... %				
	oral	LD50 mg/kg 640	Rat	ECHA	OECD 401
	dermal	ATE mg/kg 300			
	inhalation (4 h) vapour	LC50 462 mg/l	Rat	ECHA	
	inhalation aerosol	ATE 0,5 mg/l			
67-56-1	methanol				
	oral	ATE mg/kg 100			
	dermal	ATE mg/kg 300			
	inhalation vapour	ATE 3 mg/l			
	inhalation aerosol	ATE 0,5 mg/l			

Irritation and corrosivity

Causes serious eye irritation.

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

Sensitising effects

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

People who suffer from skin sensitization problems, asthma, allergies, chronic or recurring respiratory illnesses should not be deployed in any process using this preparation.

Carcinogenic/mutagenic/toxic effects for reproduction

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Suspected of causing genetic defects. (Formaldehyde ... %)
May cause cancer. (Formaldehyde ... %)
Reproductive toxicity: 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
Formaldehyde: In-vitro mutagenicity: Method: OECD Guideline 479 (Genetic Toxicology: In Vitro Sister Chromatid Exchange Assay in Mammalian Cells)
Result: positive. ; Literature information: ECHA dossier
In-vivo mutagenicity: Method: OECD Guideline 475 (Mammalian Bone Marrow Chromosome Aberration Test)
Species: Mouse. Result: negative.; Literature information: ECHA dossier
Carcinogenicity: Method: - ; Result: positive.
Literature information: EMICBACK/67174; MUTAT RES 185:1-195,1987
Developmental toxicity/teratogenicity: Method: OECD Guideline 414 (Prenatal Developmental Toxicity Study)
Species: Rat ; Exposure duration: 20 d. Results: NOAEC = 10 ppm. Literature information: ECHA Dossier
Methanol: Germ cell mutagenicity: Method: OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test).
Species: Mouse.. Result: negative.. Literature information: ECHA Dossier
Carcinogenicity: Method: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies). Length of test: 18 m. Species: Mouse.; Result: NOAEC = 1,3 mg/l. Literature information: ECHA Dossier
Reproductive toxicity: Method: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study). Species: Rat.. Result: NOAEC = 1,3 mg/l. Literature information: ECHA Dossier
Developmental toxicity/teratogenicity: Method: OECD Guideline 414 (Prenatal Developmental Toxicity Study).
Species: Rabbit; Result: NOAEL = 1000 mg/kg.

STOT-single exposure

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

STOT-repeated exposure

Repeated exposure may cause skin dryness or cracking.
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
Formaldehyde: Chronic oral toxicity:
Method: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies); Species: Rat ; Exposure duration: 2 years; Results: NOAEC = 15 mg/kg. literature information: ECHA Dossier
Methanol: Chronic inhalative toxicity:
Method: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies). Length of test: 12 m .
Exposure time: 20 h/d. Species: Rat.; Result: Result: NOAEC = 1,3 mg/l. literature information: ECHA Dossier

Aspiration hazard

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

Specific effects in experiment on an animal

No information available.

SECTION 12: Ecological information**12.1. Toxicity**

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
64-17-5	ethanol, ethyl alcohol					
	Acute fish toxicity	LC50 mg/l	14200	96 h	Pimephales promelas	ECHA Dossier
	Acute algae toxicity	ErC50	275 mg/l	72 h	Chlorella vulgaris	ECHA Dossier
	Acute crustacea toxicity	EC50 mg/l	5012	48 h	Ceriodaphnia dubia	ECHA Dossier
	Crustacea toxicity	NOEC mg/l	(9,6)	9 d	Daphnia magna	ECHA Dossier
60-29-7	diethyl ether; ether					
	Acute algae toxicity	ErC50 mg/l	0,90	72 h	Desmodesmus subspicatus	ECHA Dossier
64-19-7	acetic acid 99 %					
	Acute fish toxicity	LC50 mg/l	>300	96 h	Oncorhynchus mykiss	ECHA Dossier
	Acute algae toxicity	ErC50 mg/l	>300	72 h	Skeletonema costatum	ECHA Dossier
	Acute crustacea toxicity	EC50 mg/l	>300	48 h	Daphnia magna	ECHA Dossier
50-00-0	Formaldehyde ... %					
	Acute fish toxicity	LC50 mg/l	6,18	96 h	Morone saxatilis	ECHA Dossier
	Acute algae toxicity	ErC50 mg/l	5,67	72 h	Freshwater algae	ECHA Dossier
	Acute crustacea toxicity	EC50	5,8 mg/l	48 h	Daphnia magna	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	Pseudokirchnerella subca	ECHA Dossier
	Acute crustacea toxicity	EC50 mg/l	18260	48 h	Daphnia magna	ECHA Dossier

12.2. Persistence and degradability

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CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
64-17-5	ethanol, ethyl alcohol			
	other guideline	84%	20	ECHA Dossier
	Biodegradable.			
64-19-7	acetic acid 99 %			
	Other guideline	96%	20	ECHA Dossier
	Biodegradable.			
50-00-0	Formaldehyde ... %			
	OECD Guideline 301 C	91%	14	ECHA Dossier
	Product is biodegradable.			
	OECD Guideline 301 D	90%	28	ECHA Dossier
	Product is biodegradable.			
67-56-1	methanol			
	other guideline	76%	20	ECHA Dossier
	Product is biodegradable.			

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
64-17-5	ethanol, ethyl alcohol	-0,31
64-19-7	acetic acid 99 %	-0,17
67-56-1	methanol	-0,7

12.4. Mobility in soil

No information available.

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.

12.6. Other adverse effects

No information available.

Further information

Do not allow uncontrolled discharge of product into the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Dispose of waste according to applicable legislation. Consult the local waste disposal expert about waste disposal. Non-contaminated packages may be recycled. 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

160305 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; organic wastes containing hazardous substances; hazardous waste

List of Wastes Code - used product

160305 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; organic wastes containing hazardous substances; hazardous waste

List of Wastes Code - contaminated packaging

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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

Handle contaminated packages in the same way as the substance itself.

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

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



Classification code: F1
Special Provisions: 274
Limited quantity: 0
Excepted quantity: E3
Transport category: 1
Hazard No: 33
Tunnel restriction code: D/E

Inland waterways transport (ADN)

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



Classification code: F1
Special Provisions: 274
Limited quantity: 0
Excepted quantity: E3

Marine transport (IMDG)

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



Marine pollutant: NO
Special Provisions: 274

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Limited quantity:	0
Excepted quantity:	E3
EmS:	F-E, S-E

Air transport (ICAO-TI/IATA-DGR)

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



Special Provisions:	A3
Limited quantity Passenger:	Forbidden
Passenger LQ:	Forbidden
Excepted quantity:	E3
IATA-packing instructions - Passenger:	351
IATA-max. quantity - Passenger:	1 L
IATA-packing instructions - Cargo:	361
IATA-max. quantity - Cargo:	30 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

See section 8.

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

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 28: Formaldehyde ... %

Entry 69: methanol

2010/75/EU (VOC):	87 % (calculated)
2004/42/EC (VOC):	697 g/l (calculated)
Information according to 2012/18/EU (SEVESO III):	P5a FLAMMABLE LIQUIDS

Additional information

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

REACH 1907/2006 Appendix XVII, No: 3, 28/29/30

National regulatory information

Employment restrictions:	Observe restrictions to employment for juvenils 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 contaminating class (D):	3 - highly water contaminating
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15.2. Chemical safety assessment

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

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ethanol, ethyl alcohol
propan-2-ol; isopropyl alcohol; isopropanol

SECTION 16: Other information**Changes**

Rev.1.00; 26.08.2014, Initial release
Rev. 1.01; 26.08.2015, Documentation of changes: chapter: 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16.
Rev. 2,00; 21.12.2017, Changes in chapter: 1 -16.

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)
LOEL: 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 fuerGefahrstoffe
TSCA: Toxic Substances Control Act
VOC: Volatile Organic Compounds
VwVwS: Verwaltungsvorschrift wassergefaehrdender Stoffe
WGK: Wassergefaehrdungsklasse

Relevant H and EUH statements (number and full text)

H224	Extremely flammable liquid and vapour.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.

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H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H370	Causes damage to organs.
EUH019	May form explosive peroxides.
EUH066	Repeated exposure may cause skin dryness or cracking.

Further Information

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.)