

Safety Data Sheet

according to UK REACH Regulation

Fixative after THIEL

Revision date: 03.01.2024

Product code: 12419.xxxxx

Page 1 of 16

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

1.1. Product identifier

Fixative after THIEL

UFI: 97D3-V1PC-S008-UY59

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

Skin Sens. 1; H317
Carc. 1B; H350
Repr. 1B; H360FD

Full text of hazard statements: see SECTION 16.

2.2. Label elements

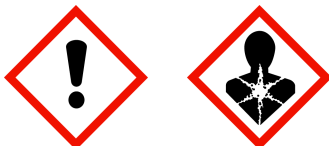
GB CLP Regulation

Hazard components for labelling

boric acid
formaldehyde%

Signal word: Danger

Pictograms:



Hazard statements

H317 May cause an allergic skin reaction.
H350 May cause cancer.
H360FD May damage fertility. May damage the unborn child.

Precautionary statements

P201 Obtain special instructions before use.
P261 Avoid breathing Vapour.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Safety Data Sheet

according to UK REACH Regulation

Fixative after THIEL

Revision date: 03.01.2024

Product code: 12419.xxxxx

Page 2 of 16

P308+P313 IF exposed or concerned: Get medical advice/attention.

Special labelling of certain mixtures

Restricted to professional users.

2.3. Other hazards

Endocrine disrupting properties: boric acid.

This mixture does not contain any components at concentrations of 0.1% or higher that are classified as either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) according to REACH, Annex XIII.

SECTION 3: Composition/information on ingredients
3.2. Mixtures
Chemical characterization

in aqueous solution

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
107-21-1	ethanediol			5 - < 10 %
	203-473-3	603-027-00-1	01-2119456816-28	
	Acute Tox. 4, STOT RE 2; H302 H373			
6484-52-2	Ammonium nitrate			5 - < 10 %
	229-347-8		01-2119490981-27	
	Ox. Sol. 3, Eye Irrit. 2; H272 H319			
10043-35-3	boric acid			1 - < 5 %
	233-139-2	005-007-00-2	01-2119486683-25	
	Repr. 1B; H360FD			
50-00-0	formaldehyde%			< 1 %
	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 %
	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.

Safety Data Sheet

according to UK REACH Regulation

Fixative after THIEL

Revision date: 03.01.2024

Product code: 12419.xxxxx

Page 3 of 16

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
107-21-1	203-473-3	ethanediol	5 - < 10 %
		dermal: LD50 = >3500 mg/kg; oral: LD50 = 7712 mg/kg	
6484-52-2	229-347-8	Ammonium nitrate	5 - < 10 %
		inhalation: LC50 = >88,8 mg/l (dusts or mists); dermal: LD50 = >5000 mg/kg; oral: LD50 = 2950 mg/kg	
10043-35-3	233-139-2	boric acid	1 - < 5 %
		dermal: LD50 = >2000 mg/kg; oral: LD50 = 3450 mg/kg	
50-00-0	200-001-8	formaldehyde%	< 1 %
		inhalation: LC50 = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: LD50 = 292 mg/kg; oral: LD50 = 100 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 %
		inhalation: LC50 = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: LD50 = 300 mg/kg; oral: LD50 = 100 mg/kg STOT SE 1; H370: >= 10 - 100 STOT SE 2; H371: >= 3 - < 10	

Further Information

This mixture contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: boric acid (CAS: 10043-35-3)

SECTION 4: First aid measures
4.1. Description of first aid measures
General information

First aider: Pay attention to self-protection! 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. Remove affected person from the danger area and lay down. To supervise the blood circulation.

After inhalation

Provide fresh air. When in doubt or if symptoms are observed, get medical advice.

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. Medical treatment necessary.

After contact with eyes

After eye contact: Rinse immediately carefully and thoroughly with eye-bath or water. Consult an ophthalmologist.

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). 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

Safety Data Sheet

according to UK REACH Regulation

Fixative after THIEL

Revision date: 03.01.2024

Product code: 12419.xxxxx

Page 4 of 16

Suitable extinguishing media

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 mixtureNon-flammable. 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.

Additional information

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

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

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Ventilate affected area. 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

Clear danger zone. Follow emergency plan. Consult an expert.

For emergency responders

Move undamaged containers from immediate hazard area if it can be done safely. Stop leak if safe to do so.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Discharge into the environment must be avoided. Inform competent authorities in case of accidental release. (Larger quantities)

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. 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

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. 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.

Advice on protection against fire and explosion

No special fire protection measures are necessary.

Safety Data Sheet

according to UK REACH Regulation

Fixative after THIEL

Revision date: 03.01.2024

Product code: 12419.xxxxx

Page 5 of 16

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. Avoid contact with skin, eyes and clothes.

Further information on handling

General protection and hygiene measures: See section 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.

Recommended storage temperature: 15°-25°C

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.

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.

7.3. Specific end use(s)

Use as laboratory reagent.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
107-21-1	Ethane-1,2-diol, vapour	20	52		TWA (8 h)	WEL
		40	104		STEL (15 min)	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

Safety Data Sheet

according to UK REACH Regulation

Fixative after THIEL

Revision date: 03.01.2024

Product code: 12419.xxxxx

Page 6 of 16

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
107-21-1	ethanediol			
Worker DNEL, long-term		inhalation	local	35 mg/m ³
Worker DNEL, long-term		dermal	systemic	106 mg/kg bw/day
10043-35-3	boric acid			
Worker DNEL, long-term		inhalation	systemic	8,3 mg/m ³
Worker DNEL, long-term		dermal	systemic	392 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	0,98 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,98 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	4,15 mg/m ³
Consumer DNEL, long-term		dermal	systemic	196 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

Safety Data Sheet

according to UK REACH Regulation

Fixative after THIEL

Revision date: 03.01.2024

Product code: 12419.xxxxx

Page 7 of 16

PNEC values

CAS No	Substance	Value
Environmental compartment		
107-21-1	ethanediol	
Freshwater		10 mg/l
Marine water		1 mg/l
Freshwater sediment		37 mg/kg
Marine sediment		3,7 mg/kg
Micro-organisms in sewage treatment plants (STP)		199,5 mg/l
Soil		1,53 mg/kg
10043-35-3	boric acid	
Freshwater		2,9 mg/l
Freshwater (intermittent releases)		13,7 mg/l
Marine water		2,9 mg/l
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		5,7 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. Use extractor hood (laboratory). Technical ventilation of workplace. Provide washing facilities at the workplace, provide an eye shower or eyewash bottle and mark them.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear eye/face protection. Eye glasses with side protection.

Safety Data Sheet

according to UK REACH Regulation

Fixative after THIEL

Revision date: 03.01.2024

Product code: 12419.xxxxx

Page 8 of 16

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.

Suitable material: Breakthrough time (maximum wearing time): >480 min.

CR (polychloroprenes, Chloroprene rubber). 0,5mm.

NBR (Nitrile rubber). 0,35mm.

Butyl rubber.0,5mm.

FKM (fluororubber). 0,4mm.

PVC (Polyvinyl chloride). 0,5mm.

Skin protection

Use of protective clothing. Chemical protection clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Suitable respiratory protection apparatus: Combination filtering device (EN 14387) A-P2. Identification color: brown - white.

Environmental exposure controls

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid	
Colour:	colourless	
Odour:	characteristic	
Melting point/freezing point:		not determined
Boiling point or initial boiling point and boiling range:		100 °C
Flammability:		not applicable
Lower explosion limits:		not determined
Upper explosion limits:		not determined
Flash point:		not determined
Auto-ignition temperature:		not determined
Decomposition temperature:		not determined
pH-Value (at 20 °C):		2,8-3,0
Viscosity / kinematic:		not determined
Water solubility: (at 20 °C)		easily soluble
Solubility in other solvents		not determined
Partition coefficient n-octanol/water:		not determined
Vapour pressure: (at 20 °C)		23 hPa
Density (at 20 °C):		1,11 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. none

Safety Data Sheet

according to UK REACH Regulation

Fixative after THIEL

Revision date: 03.01.2024

Product code: 12419.xxxxx

Page 9 of 16

Sustaining combustion:	Not sustaining combustion
Self-ignition temperature	
Solid:	not applicable
Gas:	not applicable
Oxidizing properties	
Not oxidising.	
Other safety characteristics	
Evaporation rate:	not determined
Solid content:	not determined
Pour point:	not determined
Viscosity / dynamic:	not determined

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

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

The substance can react dangerously with: Aluminum, chlorosulfonic acid, chromosulfuric acid, chromium trioxide, chromyl chloride, potassium dichromate, potassium permanganate, sodium hydroxide, sodium hypochlorite, sodium peroxide, strong oxidizers, sulfuric acid, oleum phosphorus pentasulfide, fuming nitric acid, silver chlorate. perchloric acid. Oxidizing agents, strong. Sulfuric acid. permanganates, e.g. potassium permanganate

10.4. Conditions to avoid

none

10.5. Incompatible materials

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

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**

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

ATEmix calculated

ATE (oral) 4251 mg/kg; ATE (dermal) 39546 mg/kg; ATE (inhalation vapour) 404,0 mg/l; ATE (inhalation dust/mist) 67,33 mg/l

Safety Data Sheet

according to UK REACH Regulation

Fixative after THIEL

Revision date: 03.01.2024

Product code: 12419.xxxxx

Page 10 of 16

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
107-21-1	ethanediol					
	oral	LD50 mg/kg	7712	Rat	ECHA	
	dermal	LD50 mg/kg	>3500	Mouse	ECHA	
6484-52-2	Ammonium nitrate					
	oral	LD50 mg/kg	2950	Ratte	Externes SDB	OECD Prüfrichtlinie 401
	dermal	LD50 mg/kg	>5000	Kaninchen	SDS external.	OECD Prüfrichtlinie 404
	inhalation (4 h) dust/mist	LC50 mg/l	>88,8	Ratte	ECHA-Dossier	
10043-35-3	boric acid					
	oral	LD50 mg/kg	3450	Rat	ECHA	
	dermal	LD50 mg/kg	>2000	Rabbit	ECHA	
50-00-0	formaldehyde%					
	oral	LD50 mg/kg	100	Rat	GESTIS	
	dermal	LD50 mg/kg	292	Rabbit	GESTIS	
	inhalation (4 h) vapour	LC50	3 mg/l	Rat	suppliers SDS.	
	inhalation dust/mist	ATE	0,5 mg/l			
67-56-1	methanol					
	oral	LD50 mg/kg	100	Rat	suppliers SDS.	
	dermal	LD50 mg/kg	300	Rabbit	suppliers SDS.	
	inhalation (4 h) vapour	LC50	3 mg/l	Rat	suppliers SDS.	
	inhalation dust/mist	ATE	0,5 mg/l			

Irritation and corrosivity

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

Sensitising effects

May cause an allergic skin reaction. (formaldehyde%)

Carcinogenic/mutagenic/toxic effects for reproduction

May cause cancer. (formaldehyde%)

May damage fertility. May damage the unborn child. (boric acid)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

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.

Aspiration hazard

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

11.2. Information on other hazards

Safety Data Sheet

according to UK REACH Regulation

Fixative after THIEL

Revision date: 03.01.2024

Product code: 12419.xxxxx

Page 11 of 16

Endocrine disrupting properties

Endocrine disrupting properties: boric acid.

Other information

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

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
107-21-1	ethanediol					
	Acute fish toxicity	LC50 mg/l	>17000	96 h	Oncorhynchus mykiss (Rainbow trout)	ECHA
	Acute algae toxicity	ErC50 mg/l	>6500	96 h	Selenastrum capricornutum	ECHA
	Acute crustacea toxicity	EC50 mg/l	>100	48 h	Daphnia magna (Big water flea)	ECHA
	Fish toxicity	NOEC mg/l	>1500	28 d	Oncorhynchus mykiss (Rainbow trout)	ECHA
	Crustacea toxicity	NOEC mg/l	>15000	21 d	Daphnia magna (Big water flea)	ECHA
6484-52-2	Ammonium nitrate					
	Acute fish toxicity	LC50 mg/l	>100	96 h	Cyprinus carpio (Karpfen)	SDS external
	Acute crustacea toxicity	EC50	490 mg/l	48 h	Daphnia pulex (water flea)	SDS external
	Acute bacteria toxicity	EC50 mg/l ()	>1000	3 h	Belebtschlamm	
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	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

12.2. Persistence and degradability

The product has not been tested.

Safety Data Sheet

according to UK REACH Regulation

Fixative after THIEL

Revision date: 03.01.2024

Product code: 12419.xxxxx

Page 12 of 16

CAS No	Chemical name	Method	Value	d	Source
		Evaluation			
107-21-1	ethanediol				
	Biodegradability		83-96%	14	
	Readily biodegradable (according to OECD criteria).				
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)				

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
107-21-1	ethanediol	-1,36
10043-35-3	boric acid	-1,09
50-00-0	formaldehyde%	0,35
67-56-1	methanol	-0,77

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

Endocrine disrupting properties: boric acid.

12.7. Other adverse effects

No information available.

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. Hazardous waste according to Directive 2008/98/EC (waste framework directive). 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

Safety Data Sheet

according to UK REACH Regulation

Fixative after THIEL

Revision date: 03.01.2024

Product code: 12419.xxxxx

Page 13 of 16

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: No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.
14.4. Packing group: No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number or ID number: No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.
14.4. Packing group: No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number or ID number: No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.
14.4. Packing group: No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.
14.4. Packing group: No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Authorisations (REACH, annex XIV):

Safety Data Sheet

according to UK REACH Regulation

Fixative after THIEL

Revision date: 03.01.2024

Product code: 12419.xxxxx

Page 14 of 16

Substances of very high concern, SVHC (REACH, article 59):
boric acid

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 30, Entry 58, Entry 75

Directive 2010/75/EU on industrial emissions: 5 % (50,5 g/l)

Directive 2004/42/EC on VOC in paints and varnishes: 5 % (50,5 g/l)

Information according to Directive 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

Additional information

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

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): 3 - highly hazardous to water

Skin resorption/Sensitization: Causes allergic hypersensitivity reactions.

Additional information

The product is subject to the Chemicals Prohibition Ordinance (ChemVerbotsV). Observe the requirements and restrictions for handling and dispensing in Section 3 of the ChemVerbotsV, among others.

15.2. Chemical safety assessment

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

ethanediol

Ammonium nitrate

boric acid

formaldehyde%

methanol

SECTION 16: Other information**Changes**

This data sheet contains changes from the previous version in section(s): 2,3,4,5,7,8,9,11,12,13,14,15,16.

Rev. 1,0; 21.11.2018; Initial release

Rev. 1,1; 17.08.2021; Wizard Function C. 1-16.

Rev. 2,0; 03.01.2024; Change of classification/labeling

Safety Data Sheet

according to UK REACH Regulation

Fixative after THIEL

Revision date: 03.01.2024

Product code: 12419.xxxxx

Page 15 of 16

Abbreviations and acronyms

Ox. Sol: Oxidising solids

Flam. Liq: Flammable liquids

Acute Tox: Acute toxicity

Skin Corr: Skin corrosion

Eye Irrit: Eye irritation

Skin Sens: Skin sensitisation

Muta: Germ cell mutagenicity

Carc: Carcinogenicity

Repr: Reproductive toxicity

STOT SE: Specific target organ toxicity - single exposure

STOT RE: Specific target organ toxicity - repeated exposure

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

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

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

MARPOL: International Convention for the Prevention of Marine Pollution from Ships

IBC: Intermediate Bulk Container

VOC: Volatile Organic Compounds

SVHC: Substance of Very High Concern

For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>

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)

IMDG: International Maritime Code for Dangerous Goods

EmS: Emergency Schedules

MFAG: Medical First Aid Guide

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

EC/EEC: European Community/European Economic Community

EU: European Union

M-factor: Multiplying factor

IATA: International Air Transport Association

DGR: Dangerous Goods Regulations

ICAO: International Civil Aviation Organization

TI: Technical Instructions

VOC: volatile organic compound

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety

Safety Data Sheet

according to UK REACH Regulation

Fixative after THIEL

Revision date: 03.01.2024

Product code: 12419.xxxxx

Page 16 of 16

assessment, chapter R.20 (Table of terms and abbreviations).

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

Classification	Classification procedure
Skin Sens. 1; H317	Calculation method
Carc. 1B; H350	Calculation method
Repr. 1B; H360FD	Calculation method

Relevant H and EUH statements (number and full text)

H225	Highly flammable liquid and vapour.
H272	May intensify fire; oxidiser.
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.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H360FD	May damage fertility. May damage the unborn child.
H370	Causes damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.

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. 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 relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)