

Safety Data Sheet

according to UK REACH Regulation

Zinc Chloride - Acetic Acid - Formaline

Revision date: 10.07.2024

Product code: 11707.xxxxx

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

1.1. Product identifier

Zinc Chloride - Acetic Acid - Formaline

UFI: X3E1-H17Q-P00W-VW8C

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

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
Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements

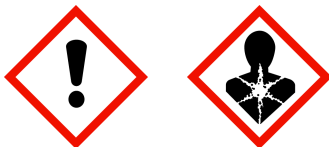
GB CLP Regulation

Hazard components for labelling

formaldehyde10%. 01-2119488953-20-xxxx
methanol

Signal word: Danger

Pictograms:



Hazard statements

H302+H332	Harmful if swallowed or if inhaled.
H315	Causes skin irritation.

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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.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P201	Obtain special instructions before use.
P261	Avoid breathing vapours.
P280	Wear protective gloves/protective clothing and eye protection/face protection.
P308+P313	IF exposed or concerned: 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-H412

Precautionary statements

P201-P261-P280-P308+P313

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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Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
50-00-0	formaldehyde%. 01-2119488953-20-xxxx			10 - < 15 %
	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			
64-19-7	Acetic acid%			1 - < 5 %
	200-580-7	607-002-00-6	01-2119475328-30	
	Flam. Liq. 3, Skin Corr. 1A; H226 H314			
7646-85-7	zinc chloride			< 1 %
	231-592-0	030-003-00-2	01-2119472431-44	
	Acute Tox. 4, Skin Corr. 1B, STOT SE 3, Aquatic Acute 1, Aquatic Chronic 1; H302 H314 H335 H400 H410			

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	
50-00-0	200-001-8	formaldehyde%. 01-2119488953-20-xxxx	10 - < 15 %
		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 - < 5 %
		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	
64-19-7	200-580-7	Acetic acid%	1 - < 5 %
		inhalation: LC50 = >40 mg/l (vapours); oral: LD50 = 3530 mg/kg Skin Corr. 1A; H314: >= 90 - 100 Skin Corr. 1B; H314: >= 25 - < 90 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 25	
7646-85-7	231-592-0	zinc chloride	< 1 %
		dermal: LD50 = >2000 mg/kg; oral: LD50 = 1100 mg/kg STOT SE 3; H335: >= 5 - 100	

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

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.

First aider: Pay attention to self-protection! Use appropriate respiratory protection.

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After inhalation

Provide fresh air. If breathing is irregular or stopped, administer artificial respiration. Medical treatment necessary. In case of accident by inhalation: remove casualty to fresh air and keep at rest. In case of respiratory tract irritation, consult a physician.

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.

After ingestion

Observe risk of aspiration if vomiting occurs. If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Let water be drunken in little sips (dilution effect). Do NOT induce vomiting. In all cases of doubt, or when symptoms persist, seek medical advice.

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**

Co-ordinate fire-fighting measures to the fire surroundings. The product itself does not burn.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Non-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. Co-ordinate fire-fighting measures to the fire surroundings.

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.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Eliminate leaks immediately. 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 cleaning up**

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the

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recovered material as prescribed in the section on waste disposal.

Other information

Clean contaminated objects and areas thoroughly observing environmental regulations.

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. Wear suitable protective clothing. (See section 8.) Avoid contact with skin, eyes and clothes.

Advice on protection against fire and explosion

Usual measures for fire prevention.

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. Always close containers tightly after the removal of product. 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 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.

Hints on joint storage

Do not store together with: Explosives. Gas. Oxidizing liquids. Oxidizing solids. Self-reactive substances and mixtures. Organic peroxides. Ammonium nitrate. Combustible toxic substances. Non-combustible toxic substances. Radioactive substances. Infectious substances.

Further information on storage conditions

Keep the packing dry and well sealed to prevent contamination and absorption of humidity.

Recommended storage temperature: 15-25 °C

Protect against: frost. UV-radiation/sunlight. heat. Humidity

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)	WEL
		20	50		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
7646-85-7	Zinc chloride, fume	-	1		TWA (8 h)	WEL
		-	2		STEL (15 min)	WEL

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
50-00-0	formaldehyde%. 01-2119488953-20-xxxx			
Worker DNEL, acute		inhalation	systemic	1 mg/m³
Worker DNEL, long-term		dermal	systemic	240 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	0,5 mg/m³
Worker DNEL, long-term		inhalation	local	0,375 mg/m³
Worker DNEL, acute		inhalation	local	0,75 mg/m³
Worker DNEL, long-term		dermal	local	0,037 mg/cm²
67-56-1	methanol			
Worker DNEL, acute		inhalation	local	260 mg/m³
Worker DNEL, acute		dermal	systemic	40 mg/kg bw/day
Worker DNEL, acute		inhalation	systemic	260 mg/m³
Worker DNEL, long-term		inhalation	local	260 mg/m³
Worker DNEL, long-term		dermal	systemic	40 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	260 mg/m³
64-19-7	Acetic acid%			
Worker DNEL, long-term		inhalation	local	25 mg/m³
Worker DNEL, acute		inhalation	local	25 mg/m³
Consumer DNEL, long-term		inhalation	local	25 mg/m³
Consumer DNEL, acute		inhalation	local	25 mg/m³
7646-85-7	zinc chloride			
Worker DNEL, long-term		inhalation	systemic	1 mg/m³
Worker DNEL, long-term		dermal	systemic	8,3 mg/kg bw/day

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PNEC values

CAS No	Substance	
Environmental compartment		Value
50-00-0	formaldehyde%. 01-2119488953-20-xxxx	
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
64-19-7	Acetic acid%	
Freshwater		3,058 mg/l
Freshwater (intermittent releases)		30,58 mg/l
Marine water		0,306 mg/l
Freshwater sediment		11,36 mg/kg
Marine sediment		1,136 mg/kg
Micro-organisms in sewage treatment plants (STP)		85 mg/l
Soil		0,47 mg/kg
7646-85-7	zinc chloride	
Freshwater		0,0206 mg/l
Marine water		0,0061 mg/l
Freshwater sediment		117,8 mg/kg
Marine sediment		56,5 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,1 mg/l
Soil		35,6 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. Provide adequate ventilation as well as local exhaust at critical locations.
Process within closed systems.

Individual protection measures, such as personal protective equipment

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Eye/face protection

Suitable eye protection: goggles. Wear safety glasses; chemical goggles (if splashing is possible). EN 166

Hand protection

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

Suitable material:

FKM (fluororubber). - Thickness of glove material: 0,4 mm

Breakthrough time $\geq$ 8 h

Butyl rubber. - Thickness of glove material: 0,5 mm

Breakthrough time $\geq$ 8 h

CR (polychloroprenes, Chloroprene rubber). - Thickness of glove material: 0,5 mm

Breakthrough time $\geq$ 8 h

NBR (Nitrile rubber). - Thickness of glove material: 0,35 mm

Breakthrough time $\geq$ 8 h

PVC (Polyvinyl chloride). - Thickness of glove material: 0,5 mm

Breakthrough time $\geq$ 8 h

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

Skin protection

Use of protective clothing. Suitable protective 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.

Release of: product.

exceeding exposure limit values

Suitable respiratory protective equipment:

Combination filtering device (EN 14387); Type : A-P3

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Details on the requirements for use and maximum concentrations can be found in the "Rules for the use of respiratory protective devices" (BGR 190).

Environmental exposure controls

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, clear	
Odour:	characteristic	
Melting point/freezing point:		not determined
Boiling point or initial boiling point and boiling range:		not determined
Flammability:		not determined

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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):	2-3
Viscosity / kinematic:	not determined
Water solubility:	not determined
Solubility in other solvents	
not determined	
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	23 hPa
Density (at 20 °C):	1,03 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.

Sustaining combustion:

No data available

Self-ignition temperature

Gas:

not determined

Oxidizing properties

none

Other safety characteristics**Evaporation rate:**

not determined

Solvent separation test:

not determined

Solvent content:

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**

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

Refer to section 10.5.

10.4. Conditions to avoid

Protect against: UV-radiation/sunlight. heat.

10.5. Incompatible materials

Materials to avoid: Oxidizing agents, strong. Reducing agents, strong.

10.6. Hazardous decomposition productsIn case of fire may be liberated: Carbon monoxide Carbon dioxide (CO₂).

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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) 760,70 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) 3,8030 mg/l

CAS No	Chemical name					
	Exposure route	Dose	Species	Source	Method	
50-00-0	formaldehyde%. 01-2119488953-20-xxxx					
	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				
64-19-7	Acetic acid%					
	oral	LD50 mg/kg 3530	Rat	GESTIS		
	inhalation (4 h) vapour	LC50 >40 mg/l	Rat	suppliers SDS.		
7646-85-7	zinc chloride					
	oral	LD50 mg/kg 1100	Rat	ECHA		
	dermal	LD50 mg/kg >2000	Rabbit	ECHA		

Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/eye irritation: Causes serious eye irritation.

Sensitising effects

May cause an allergic skin reaction. (formaldehyde%. 01-2119488953-20-xxxx)

Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of causing genetic defects. (formaldehyde%. 01-2119488953-20-xxxx)

May cause cancer. (formaldehyde%. 01-2119488953-20-xxxx)

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

STOT-single exposure

May cause respiratory irritation. (formaldehyde%. 01-2119488953-20-xxxx)

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.

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11.2. Information on other hazards

Endocrine disrupting properties

This product does not contain any substance that has endocrine disrupting properties in humans as no ingredient 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!

SECTION 12: Ecological information

12.1. Toxicity

Harmful to aquatic life with long lasting effects.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
50-00-0	formaldehyde%. 01-2119488953-20-xxxx					
	Acute fish toxicity	LC50 24,1 mg/l	96 h	Pimephales promelas	ECHA Dossier	
	Acute algae toxicity	ErC50 4,89 mg/l	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 15400 mg/l	96 h	Lepomis macrochirus	ECHA Dossier	
	Acute algae toxicity	ErC50 22000 mg/l	96 h	Pseudokirchneriella subcapitata	ECHA Dossier	
	Acute crustacea toxicity	EC50 >1000 mg/l	48 h	Daphnia magna	ECHA Dossier	OECD 202
64-19-7	Acetic acid%					
	Acute fish toxicity	LC50 >300 mg/l	96 h	Oncorhynchus mykiss	ECHA Dossier	
	Acute algae toxicity	ErC50 >300 mg/l	72 h	Skeletonema costatum	ECHA Dossier	
	Acute crustacea toxicity	EC50 >300 mg/l	48 h	Daphnia magna	ECHA Dossier	
7646-85-7	zinc chloride					
	Acute fish toxicity	LC50 0,4-2,2 mg/l	96 h	Cyprinus carpio (Common Carp)	suppliers SDS.	
	Acute crustacea toxicity	EC50 0,33 mg/l	48 h	Daphnia magna	IUCLID	

12.2. Persistence and degradability

The product has not been tested.

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CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
50-00-0	formaldehyde%. 01-2119488953-20-xxxx			
	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)			
64-19-7	Acetic acid%			
	Other guideline	95%	5	suppliers SDS.
	Easily biodegradable (concerning to the criteria of the OECD)			
7646-85-7	zinc chloride			
	Theoretical carbon dioxide:	0,3229 mg/mg		

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
50-00-0	formaldehyde%. 01-2119488953-20-xxxx	0,35
67-56-1	methanol	-0,77
64-19-7	Acetic acid%	-0,17

BCF

CAS No	Chemical name	BCF	Species	Source
67-56-1	methanol	<10		
64-19-7	Acetic acid%	3,16		
7646-85-7	zinc chloride	96,05		

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. Observe in addition any national regulations! 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

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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

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.

SECTION 14: Transport information

Land transport (ADR/RID)

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

Inland waterways transport (ADN)

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

Marine transport (IMDG)

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

Air transport (ICAO-TI/IATA-DGR)

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

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

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

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EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40, Entry 75

Directive 2010/75/EU on industrial emissions:

No information available.

Directive 2004/42/EC on VOC in paints and varnishes:

No information available.

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:

formaldehyde%. 01-2119488953-20-xxxx

methanol

Acetic acid%

zinc chloride

SECTION 16: Other information

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Abbreviations and acronyms

Flam. Liq: Flammable liquids
Acute Tox: Acute toxicity
Skin Corr: Skin corrosion
Skin Irrit: Skin irritation
Eye Irrit: Eye irritation
Skin Sens: Skin sensitisation
Muta: Germ cell mutagenicity
Carc: Carcinogenicity
STOT SE: Specific target organ toxicity - single exposure
Aquatic Acute: Acute aquatic hazard
Aquatic Chronic: Chronic aquatic hazard
ADR: Accord européen sur le transport des marchandises dangereuses par Route
AwSV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen
AGW: Arbeitsplatzgrenzwert
AVV: Abfallverzeichnisverordnung
CAS Chemical Abstracts Service
CLP: Classification, Labelling and Packaging of substances and mixtures
DNEL: Derived No Effect Level
d: day(s)
EAKV: Europäisches Abfallverzeichnis gemäß Entwurf Abfallverzeichnisverordnung
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European List of Notified Chemical Substances
ECHA: European Chemicals Agency
EWC: European Waste Catalogue
IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)
h: hour
LOAEL: Lowest observed adverse effect level
LOAEC: Lowest observed adverse effect concentration
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NOAEL: No observed adverse effect level
NOAEC: No observed adverse effect level
NLP: No-Longer Polymers
N/A: not applicable
OECD: Organisation for Economic Co-operation and Development
PNEC: predicted no effect concentration
PBT: Persistent bioaccumulative toxic
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
REACH: Registration, Evaluation, Authorisation of Chemicals
SVHC: substance of very high concern
TRGS Technische Regeln fuer Gefahrstoffe
UN: United Nations
VOC: Volatile Organic Compounds
VwVwS: Verwaltungsvorschrift wassergefährdender Stoffe
WGK: Wassergefährdungsklasse
CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals

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GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
 UN: United Nations
 CAS: Chemical Abstracts Service
 DNEL: Derived No Effect Level
 DMEL: Derived Minimal Effect Level
 PNEC: Predicted No Effect Concentration
 ATE: Acute toxicity estimate
 LL50: Lethal loading, 50%
 EL50: Effect loading, 50%
 EC50: Effective Concentration 50%
 ErC50: Effective Concentration 50%, growth rate
 NOEC: No Observed Effect Concentration
 BCF: Bio-concentration factor
 PBT: persistent, bioaccumulative, toxic
 vPvB: very persistent, very bioaccumulative
 ADR: Accord européen sur le transport des marchandises dangereuses par Route
 (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 RID: Regulations concerning the international carriage of dangerous goods by rail
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation
 intérieures)
 EmS: Emergency Schedules
 MFAG: Medical First Aid Guide
 MARPOL: International Convention for the Prevention of Marine Pollution from Ships
 IBC: Intermediate Bulk Container
 For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety
 assessment, chapter R.20 (Table of terms and abbreviations).
 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

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

Classification	Classification procedure
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
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

H225 Highly flammable liquid and vapour.
 H226 Flammable liquid and vapour.
 H301 Toxic if swallowed.
 H302 Harmful if swallowed.
 H302+H332 Harmful if swallowed or if inhaled.

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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.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H370	Causes damage to organs.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

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 to Regulation (EC) No 1272/2008 [CLP] - Classification procedure:

Health hazards: Calculation method.

Environmental hazards: Calculation method.

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

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

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