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

1.1. Product identifier

Formaldehydi solutio (35%)

Item No. 07430000

Substance / product identification

UFI XX20-D093-A001-AUMP

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

Use of the substance/preparation

Chemical for synthesis

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

Hänseler AG
Industriestrasse 35
9100 Herisau

Telephone no.	0041 (0)71 353 58 58
E-mail address of person responsible for this SDS	sdb@haenseler.ch

1.4. Emergency telephone number

Switzerland :145 / Abroad +41 (0)44 251 51 51

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No. 1272/2008)

Classification (Regulation (EC) No. 1272/2008)

Acute Tox. 3	H301
Acute Tox. 3	H311
Acute Tox. 2	H330
Skin Corr. 1B	H314
Eye Dam. 1	H318
Skin Sens. 1	H317
Muta. 2	H341
Carc. 1B	H350
STOT SE 1	H370
STOT SE 3	H335

The product is classified and labelled in accordance with Regulation (EC) No 1272/2008
For explanation of abbreviations see section 16.

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Danger

Hazard statements

H330	Fatal if inhaled.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H370	Causes damage to organs.
H335	May cause respiratory irritation.
EUH071	Corrosive to the respiratory tract.
H301+H311	Toxic if swallowed or in contact with skin.

Precautionary statements

P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	[In case of inadequate ventilation] wear respiratory protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor.
P321	Specific treatment (see ... on this label).

Hazardous component(s) to be indicated on label (Regulation (EC) No. 1272/2008)

contains methanol; formaldehyde …%

Supplemental information

Further supplemental information

Restricted to professional users

Other information

Not for supply to the general public in Switzerland

2.3. Other hazards

The product contains no PBT substances. The product contains no vPvB substances. This product does not contain a substance that has endocrine disrupting properties with respect to human. The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

SECTION 3: Composition/information on ingredients

Hazardous ingredients

formaldehyde …%

CAS No.	50-00-0			
EINECS no.	200-001-8			
Concentration	>=	33	<	50 %

Classification (Regulation (EC) No. 1272/2008)

Acute Tox. 3	H301
Acute Tox. 3	H311
Acute Tox. 2	H330
Skin Corr. 1B	H314
Skin Sens. 1	H317
Muta. 2	H341
Carc. 1B	H350

Eye Dam. 1	H318	

Concentration limits (Regulation (EC) No. 1272/2008)

Eye Irrit. 2	H319	>= 5 < 25 %
Skin Corr. 1B	H314	>= 25 %
Skin Irrit. 2	H315	>= 5 < 25 %
Skin Sens. 1	H317	>= 0.2 %
STOT SE 3	H335	>= 5 %

ATE	oral	100	mg/kg
ATE	dermal	270	mg/kg
cATpE	inhalative, Dust/Mist	0.05	mg/l
cATpE	inhalative, Vapors	0.5	mg/l

Additional remarks:

CLP Regulation (EC) No 1272/2008, Annex VI, Note B, D

methanol

CAS No. 67-56-1

EINECS no. 200-659-6

Registration no. 01-2119433307-44-XXXX

Concentration >= 15 < 25 %

Classification (Regulation (EC) No. 1272/2008)

Flam. Liq. 2	H225
Acute Tox. 3	H301
Acute Tox. 3	H311
Acute Tox. 3	H331
STOT SE 1	H370

Concentration limits (Regulation (EC) No. 1272/2008)

STOT SE 1	H370	>= 10 %
STOT SE 2	H371	>= 3 < 10 %

ATE	oral	100.1	mg/kg
ATE	dermal	300.1	mg/kg
cATpE	inhalative, Dust/Mist	0.5	mg/l
ATE	inhalative, Vapors	3.1	mg/l

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove affected person from danger area, lay him down. Remove contaminated clothing immediately and dispose of safely. Keep warm, calm and covered up. Adhere to personal protective measures when giving first aid

After inhalation

Remove the casualty into fresh air and keep him calm. Summon a doctor immediately. Irregular breathing/no breathing: artificial respiration. If the patient is likely to become unconscious, place and transport in stable sideways position. No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator.

After skin contact

Wash immediately with plenty of water for several minutes. Cover wounds with sterile dressing. Take medical treatment.

After eye contact

Separate eyelids, wash the eyes thoroughly with water (15 min.). Seek medical advice immediately. Shield unaffected eye.

After ingestion

Summon a doctor immediately. Rinse out mouth and give plenty of water to drink. Turn a vomiting

person lying on his back onto his side. Induce the patient to vomit of his own accord only if fully conscious.

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

The following symptoms may occur: Headache, Gastrointestinal complaints, Unconsciousness, Shortness of breath, Irritation of mucosa, Chemical burn, Irritating to respiratory system. Causes very strong irritations of the eyes, skin and mucous membranes. Danger of blindness.

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

Hints for the physician / treatment

Symptomatic treatment (decontamination, vital functions), no specific antidote known.

Hints for the physician / hazards

Risk of stomach perforation

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Carbon dioxide, Dry powder, Water spray jet, Extinguish greater fire with water spray or alcohol-resistant foam.

Non suitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

In the event of a fire, toxic and combustible gases can be formed. Can build mixtures of gas and air which are capable of explosion. Carbon monoxide (CO); Carbon dioxide (CO2); Vapours heavier than air.

5.3. Advice for firefighters

Special protective equipment for fire-fighting

Use self-contained breathing apparatus. Wear full protective suit.

Other information

Cool endangered containers with water spray jet. Fire residues and contaminated fire-fighting water must be disposed of in accordance with the local regulations. Heating leads to an increase in pressure - risk of bursting. Do not discharge into surface waters/groundwater.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep away unprotected persons. Ensure supply of fresh air. Avoid contact with eyes and skin. Do not inhale vapours. Respiratory protection

6.2. Environmental precautions

Dilute with lot of water. Do not discharge into the drains/surface waters/groundwater. Advise water authority if spillage has entered water course or drainage system.

6.3. Methods and material for containment and cleaning up

Pick up with absorbent material (eg sand, kieselgur, acid binder, universal binder). When picked up, treat material as prescribed under Section 13 "Disposal". Ensure adequate ventilation.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Provide good ventilation of working area (local exhaust ventilation if necessary). Provide good room ventilation even at ground level (vapours are heavier than air). Handle and open container with care. Avoid formation of aerosols. Keep limited supplies at workplace. If workplace limits are exceeded, a respiratory protection approved for this particular job must be worn. Keep container tightly closed. Avoid contact with skin, eyes and clothing. Avoid inhalation of vapour and spray mist.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Vapours can form an explosive mixture with air. Take action to prevent static discharges. Use explosion-proof equipment/fittings and non-sparking tools. Risk of explosion if the liquid enters the drains. Hold breathing apparatus.

7.2. Conditions for safe storage, including any incompatibilities

Recommended storage temperature

Value	20	30	°C

Requirements for storage rooms and vessels

explosion proof. Provide solvent-resistant and impermeable floor. Use stainless steel containers. Use polyethylene or polypropylene containers. Use glass containers. Do not use steel containers. Do not use aluminium containers.

Hints on storage assembly

Do not store with oxidizing agents. Do not store with acids. Do not store with alkalies.

Storage classes

Storage category (Switzerland)	6.1	Toxic substances
Storage class according to TRGS 510	6.1A	Combustible substances of acute toxicity categories 1 and 2 / very toxic hazardous substances

Further information on storage conditions

Keep container tightly closed. Keep container in a well-ventilated place. Protect from light. Keep under lock and key or accessible only to specialists or people who are authorized. Keep away from sources of ignition.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limit values

methanol

List	SUVA			
Type	MAK			
Value	260	mg/m³	200	ppm(V)
Short term exposure limit	520	mg/m³	400	ppm(V)

Skin resorption / sensibilisation: H; Pregnancy group: S; Remarks: H B SSc; ZNS; INRS NIOSH

formaldehyde …%

List	SUVA			
Type	MAK			
Value	0,37	mg/m³	0,3	ppm(V)
Short term exposure limit	0,74	mg/m³	0,6	ppm(V)

Pregnancy group: S; Remarks: S C1#B SSc; Auge; HSE NIOSH DFG OSHA

Derived No/Minimal Effect Levels (DNEL/DMEL)

methanol

Type of value	Derived No Effect Level (DNEL)
Reference group	Worker
Duration of exposure	Acute
Route of exposure	dermal
Mode of action	Systemic effects

Concentration	20	mg/kg/d
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Acute	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	130	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Acute	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	130	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	20	mg/kg/d
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	130	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	130	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Acute	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	4	mg/kg/d
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Acute	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	26	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Acute	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	4	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	26	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	4	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	26	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	4	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Acute	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	26	mg/m³

formaldehyde …%

Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	9	mg/m³

Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	0.375	mg/m³

Reference group	Worker	
Duration of exposure	Acute	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	0.75	mg/m³

Reference group	Worker

Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	240	mg/kg/d
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Local effects	
Concentration	0.037	mg/cm²
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	3.2	mg/m³
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	0.1	mg/m³
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	102	mg/kg/d
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Local effects	
Concentration	0.012	mg/cm²
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	4.1	mg/kg/d

Predicted No Effect Concentration (PNEC)

methanol

Type of value	PNEC	
Type	Freshwater	
Concentration	20	mg/l
Type of value	PNEC	
Type	Saltwater	
Concentration	2.08	mg/l
Type of value	PNEC	
Type	Sediment	
Concentration	570.4	mg/kg
Type of value	PNEC	

Type	Soil	
Concentration	100	mg/kg
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	100	mg/l
Conditions	Intermittend	
Concentration	1540	mg/l
Type	Marine sediment	
Concentration	7.7	mg/kg

formaldehyde …%

Type	Water	
Concentration	0.44	mg/l
Type	Saltwater	
Concentration	0.44	mg/l
Type	Sewage treatment plant (STP)	
Concentration	0.19	mg/l
Type	Freshwater sediment	
Concentration	2.3	mg/l
Type	Marine sediment	
Concentration	2.3	mg/l
Type	Soil	
Concentration	0.2	mg/kg

8.2. Exposure controls

General protective and hygiene measures

Keep away from food-stuffs, beverages and feed-stocks. Store work clothing separately. Wash hands before breaks and after work. Avoid contact with skin and eyes. Hold eye wash fountain available. At work do not eat, drink, smoke or take drugs. Remove contaminated, soaked clothing immediately and dispose of safely.

Respiratory protection

necessary; combination filter B-P3; Respiratory protection according to EN141; If vapours occur, use filter type A (= against vapours of organic compounds) according to EN 14387.

Hand protection

Gloves (solvent-resistant)

Appropriate Material	Butyl rubber - Butyl		
Material thickness		0.5	mm
Breakthrough time	>=	8	h

Hand protection must comply with EN 374.

Gloves (solvent-resistant)

Appropriate Material	Fluoro carbon rubber - FKM		
Material thickness		0.4	mm
Breakthrough time	>=	4	h

Eye protection

Tightly fitting safety glasses; Do not wear contact lenses; Eye protection must comply with EN 166.

Body protection

Solvent-resistant protective clothing; Impermeable protective clothing; antistatic boots

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid				
Colour	colourless				
Odour	pungent				
Melting point					
Value	<	-15			°C
Boiling point or initial boiling point and boiling range					
Value	appr.	97			°C
Flammability					
Not self inflammable					
Upper and lower explosive limits					
Lower explosion limit		7			%(V)
Upper explosion limit		72			%(V)
Flash point					
Value		66	to	73	°C
Ignition temperature					
Remarks	No data available				
pH value					
Value		3.5	to	4.5	
Concentration/H2O		100	%		
Temperature		20	°C		
Viscosity					
dynamic					
Value		1.8	to	2.5	mPa.s
Temperature		25	°C		
Method	DIN 51562				
Solubility(ies)					
organic solvents					
Value		49.0			%
Partition coefficient n-octanol/water (log value)					
log Pow		0.35			
Vapour pressure					
Value		1			hPa
Temperature		20	°C		
Density and/or relative density					
Value		1.08	to	1.10	g/cm³
Temperature		20	°C		

9.2. Other information

Solubility in water

Remarks Completely miscible

Other information

Forms esplosive mixture with air are possible.

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known.

10.2. Chemical stability

No decomposition if stored and applied as directed.

10.3. Possibility of hazardous reactions

Vapours can form an explosive mixture with air. Oxidising agents

10.4. Conditions to avoid

Keep away from sources of heat and ignition. Sparks

10.5. Incompatible materials

Oxidising agents, strong acids, Bases, peroxides, hydrogen peroxide (H2O2)

10.6. Hazardous decomposition products

Flammable gases/vapours, Carbon dioxide, Carbon monoxide, Formaldehyde

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute oral toxicity

ATE	188.732 6	mg/kg
Method	calculated value (Regulation (EC) No. 1272/2008)	

Acute oral toxicity (Components)

methanol

Species	Human	
ATE	100.1	mg/kg
Method	calculated value (Regulation (EC) No. 1272/2008)	
Source	Merck KGaA Safety Data Sheet	

formaldehyde …%

Species	rat	
cATpE	100	mg/kg

Acute dermal toxicity

ATE	524.317 6	mg/kg
Method	calculated value (Regulation (EC) No. 1272/2008)	

Acute dermal toxicity (Components)

methanol

Species	Human	
ATE	300.1	mg/kg
Method	calculated value (Regulation (EC) No. 1272/2008)	

formaldehyde …%

Species	rabbit	
LD50	270	mg/kg

Acute inhalational toxicity

ATE	1.237	mg/l
Administration/Form	Vapors	
Method	calculated value (Regulation (EC) No. 1272/2008)	
ATE	0.1266	mg/l

Administration/Form	Dust/Mist		
Method	calculated value (Regulation (EC) No. 1272/2008)		

Acute inhalative toxicity (Components)

methanol

Species	Human		
ATE	3.1		mg/l
Duration of exposure	4	h	
Administration/Form	Vapors		

formaldehyde …%

cATpE	100		ppm(V)
Duration of exposure	4	h	
Administration/Form	Gases		

formaldehyde …%

Species	rat		
NOAEL	6		ppm(V)
Duration of exposure	28	d	

formaldehyde …%

Species	rat		
LOAEL	10		ppm(V)
Duration of exposure	28	d	

Skin corrosion/irritation

Remarks Corrosive action on the skin and mucous membrane.

Skin corrosion/irritation (Components)

methanol

Species	rabbit
Remarks	No effect of irritation known.
Source	ECHA

formaldehyde …%

Species	rabbit
evaluation	corrosive
Method	OECD 404

Serious eye damage/irritation

evaluation strongly corrosive

Serious eye damage/irritation (Components)

methanol

Species	rabbit
Method	OECD 405
Remarks	None

formaldehyde …%

Species	rabbit
evaluation	irritant - risk of serious damage to eyes

Sensitization

Remarks May cause sensitization by skin contact.

Sensitization (Components)

methanol

Species	guinea pig
Method	OECD 406
Remarks	No sensitation effect known.

formaldehyde …%

Route of exposure dermal

Species	mouse
evaluation	sensitizing
Method	OECD 429

Subacute, subchronic, chronic toxicity

Remarks	Suspicion about carcinogenic effect.
Remarks	Chronic exposure causes damage of respiratoy organs.
Remarks	Repeated absorption/exposure may cause disorder of the kidneys.

Subacute, subchronic, chronic toxicity (Components)

methanol

Remarks	No data available.

Mutagenicity (Components)

methanol

Species	Salmonella typhimurium
evaluation	No mutagenicity in the Ames-test.
Method	OECD 471
Remarks	negative

methanol

Species	hamster
evaluation	No experimental information on genotoxicity in vitro available.

methanol

Route of exposure	intraperitoneal
Species	mouse
evaluation	No mutagenicity in the micronucleus test.
Method	OECD 474

formaldehyde …%

evaluation	Information on genotoxicity in vivo available.
Method	Ames test
Remarks	positive

Reproduction toxicity (Components)

methanol

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

formaldehyde …%

Route of exposure	inhalative
Species	rat
evaluation	No negative effects

Carcinogenicity (Components)

methanol

Remarks	None

formaldehyde …%

Route of exposure	inhalative
Species	rat
Duration of exposure	28 Months
evaluation	Definitely confirmed as causing cancer in the experiment on test animals.

Specific Target Organ Toxicity (STOT) (Components)

methanol

Single exposure

evaluation	Causes damage to organs. Route of exposure oral Organs: Eyes
Species	Human

methanol

Single exposure

evaluation	Causes damage to organs. Route of exposure oral Organs: Nervous system
Species	Human

formaldehyde …%

Single exposure

evaluation	May cause respiratory irritation.

formaldehyde …%

Repeated exposure

Remarks	None

11.2 Information on other hazards

Endocrine disrupting properties with respect to humans

The product does not contain a substance that has endocrine disrupting properties with respect to humans.

Experience in practice

After Swallowing: burns in mouth, throat, oesophagus and gastrointetinal tract. Risk of perforation in the oesophagus and stomach.

SECTION 12: Ecological information ***

12.1. Toxicity

Fish toxicity

Reference substance	formaldehyde …%		
Species	zebra fish (Brachydanio rerio)		
LC50	41		mg/l
Duration of exposure	96	h	
Reference substance	methanol		
Species	Bluegill (Lepomis macrochirus)		
LC50	15400		mg/l
Duration of exposure	96	h	
Reference substance	formaldehyde …%		
Species	Fathead minnow (Pimephales promelas)		
LC50	24		mg/l
Duration of exposure	96	h	

Fish toxicity (Components)

methanol

Species	Bluegill (Lepomis macrochirus)		
LC50	15400		mg/l
Duration of exposure	96	h	
Source	(EPA 600/3-75/009)		

formaldehyde …%

Species	Morone saxatilis		
LC50	6.7		mg/l
Duration of exposure	96	h	

formaldehyde …%

Species	Oryzias latipes		
NOEC	>= 48		mg/l
Duration of exposure	28	d	

Daphnia toxicity

Reference substance	formaldehyde …%		
Species	Daphnia magna		
EC50	2		mg/l
Duration of exposure	48	h	
Reference substance	methanol		
Species	Daphnia magna		
EC50	> 10000		mg/l
Duration of exposure	48	h	

Daphnia toxicity (Components)

methanol

Species	Daphnia magna		
EC50	> 18260		mg/l
Duration of exposure	96	h	
Method	OECD 202		

formaldehyde …%

Species	Daphnia pulex		
EC50	5.8		mg/l
Duration of exposure	48	h	
Method	OECD 201		

formaldehyde …%

Species	Daphnia magna		
	>= 6.4		mg/l
Duration of exposure	21	d	
Method	OECD 211		

Algae toxicity

Reference substance	formaldehyde …%		
Species	Scenedesmus quadricauda		
IC5	2.5		mg/l
Duration of exposure	8	d	

Algae toxicity (Components)

methanol

Species	Pseudokirchneriella subcapitata		
ErC50	22000		mg/l
Duration of exposure	96	h	
Method	OECD 201		

formaldehyde …%

Species	Desmodesmus subspicatus		
EC50	4.89		mg/l
Duration of exposure	72	h	
Method	OECD 201		

Bacteria toxicity

Reference substance	formaldehyde …%		
Species	Pseudomonas putida		
EC0	14		mg/l
Duration of exposure	16	h	

Bacteria toxicity (Components)

methanol

Species	activated sludge		
IC50	> 1000		mg/l
Duration of exposure	3	h	
Method	OECD 209		

formaldehyde …%

EC50	34.1		mg/l
Duration of exposure	120	h	

12.2. Persistence and degradability

Biodegradability

Value	97		%
Duration of test	5	d	
evaluation	Readily biodegradable		

Biodegradability (Components)

formaldehyde …%

Value	91		%
Duration of test	14	d	
evaluation	Readily biodegradable		
Method	OECD 301C		
Remarks	Test conducted with a similar formulation.		

methanol

Value	99		%
evaluation	Readily biodegradable		
Method	OECD 301D		

Ready degradability (Components)

methanol

Value	99		%
Duration of test	30	d	
Method	OECD 301D		
Source	Merck KGaA Safety Data Sheet		

Chemical oxygen demand (COD) (Components)

methanol

Value	1420		mg/g
Source	IUCLID		

Biochemical oxygen demand (BOD5) (Components)

methanol

Value	600	to	1120		mg/g
Source	IUCLID				

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water (log value)

log Pow	0.35

Octanol/water partition coefficient (log Pow) (Components)

methanol

log Pow	-0.77

Bioconcentration factor (BCF) (Components)

methanol

BCF	1.0

12.4. Mobility in soil

Mobility in soil (Components)

methanol

Will not adsorb on soil.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment ***

The product contains no PBT substances
The product contains no vPvB substances.

12.6 Endocrine disrupting properties

Endocrine disrupting properties with respect to the envrionment

The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

General information / ecology

Harmful to aquatic organisms. Do not allow it to reach ground water, water bodies or sewage system. Hazard for drinking water supplies. Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations for the product

EWC waste code No not dispose with rubbish.
EWC waste code Should not be released into the sanitary sewer system.
In accordance with regulations for special waste, must be taken, to an authorised special waste incineration plant.

Disposal recommendations for packaging

Disposal in compliance with local and national regulations.

SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
Tunnel restriction code	E		
14.1. UN number	2209	2209	2209
14.2. UN proper shipping name	FORMALDEHYDE SOLUTION (methanol)	FORMALDEHYDE SOLUTION (methanol)	FORMALDEHYDE SOLUTION (methanol)
14.3. Transport hazard class(es)	8	8	8
Label			
14.4. Packing group	III	III	III
Limited Quantity	5 l		
Transport category	3		

SECTION 15: Regulatory information

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

Water Hazard Class (Germany)

Water Hazard Class (Germany)	WGK 3
Remarks	Derivation of WGK according to Annex 1 No. 5.2 AwSV

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

Hazard statements listed in Chapter 3

H225	Highly flammable liquid and vapour.
H301	Toxic 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.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H370	Causes damage to organs.

CLP categories listed in Chapter 3

Acute Tox. 2	Acute toxicity, Category 2
Acute Tox. 3	Acute toxicity, Category 3
Carc. 1B	Carcinogenicity, Category 1B
Eye Dam. 1	Serious eye damage, Category 1
Flam. Liq. 2	Flammable liquid, Category 2
Muta. 2	Germ cell mutagenicity, Category 2
Skin Corr. 1B	Skin corrosion, Category 1B
Skin Sens. 1	Skin sensitization, Category 1
STOT SE 1	Specific target organ toxicity - single exposure, Category 1
STOT SE 3	Specific target organ toxicity - single exposure, Category 3

Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.