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

1.1. Product identifier

Methanolum

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

Use of the substance/preparation

Manufacture of pharmaceutical products

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)

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

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 ***

H225	Highly flammable liquid and vapour.
H370	Causes damage to organs.
H301+H311+H331	Toxic if swallowed, in contact with skin or if inhaled.

Precautionary statements ***

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face 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.
P308+P311	IF exposed or concerned: Call a POISON CENTER or doctor.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

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

contains methanol

2.3. Other hazards

The Substance does not meet PBT-criteria. This substance does not meet the vPvB-criteria. This substance does not have endocrine disrupting properties with respect to humans. This substance does not have endocrine disrupting properties with respect to non-target organisms.

SECTION 3: Composition/information on ingredients

3.1. Substances

Molecular weight

Value 32.04 g/mol

Hazardous ingredients

methanol

CAS No.	67-56-1		
EINECS no.	200-659-6		
Registration no.	01-2119433307-44-XXXX		
Concentration	>= 100		%

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. Take off contaminated clothing and shoes immediately. Adhere to personal protective measures when giving first aid

After inhalation

Ensure supply of fresh air. If necessary, give oxygen. 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 off immediately with soap and water and rinse well. Summon a doctor immediately.

After eye contact

Separate eyelids, wash the eyes thoroughly with water (15 min.). Take medical treatment.

After ingestion

Rinse out mouth and give plenty of water to drink. Induce vomiting if patient is conscious, seek medical advice. If individual is drowsy or unconscious place in recovery position (on left side, with head down). Summon a doctor immediately.

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

Shortness of breath, Dizziness, Headache, Nausea, Excitement, Acidosis, Convulsions, Unconsciousness, Narcosis, Danger of blindness.

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

Hints for the physician / treatment

Treat symptomatically. Allow to drink about 100 ml of approx. 40% ethyl alcohol (ethanol).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Carbon dioxide, Dry powder, Water spray jet, Alcohol-resistant foam

Non suitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

Carbon monoxide (CO); Carbon dioxide (CO2); The product is combustible. Keep away sources of ignition. Forms esplosive mixture with air are possible. Vapours heavier than air. In case of combustion evolution of dangerous gases possible.

5.3. Advice for firefighters

Special protective equipment for fire-fighting

Use self-contained breathing apparatus. Use personal protective clothing.

Other information

Cool endangered containers with water spray jet. Collect contaminated fire-fighting water separately, must not be discharged into the drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Do not inhale vapours. Use breathing apparatus if exposed to vapours/dust/aerosol. Ensure adequate ventilation. Keep away sources of ignition. Not required.

6.2. Environmental precautions

Do not empty into drains. Explosive

6.3. Methods and material for containment and cleaning up

Pick up with absorbent material. When picked up, treat material as prescribed under Section 13 "Disposal". Clean up affected area.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid contact with skin, eyes and clothing. For personal protection see Section 8.

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.

7.2. Conditions for safe storage, including any incompatibilities

Recommended storage temperature

Value	15	-	25	°C

Requirements for storage rooms and vessels

explosion proof. Provide solvent-resistant and impermeable floor. Use stainless steel containers. Do not use light metal drums. Unsuitable material: Do not use lead containers. Do not use aluminium containers. Do not use zinc containers. Prevent unauthorized access.

Hints on storage assembly

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

Storage classes

Storage class according to TRGS 510	3	Flammable liquid
Storage category (Switzerland)	3	Flammable liquid

Further information on storage conditions

Keep container tightly closed, cool and dry. Protect from direct sunlight. Protect from heat. Protect from atmospheric moisture and water. Product is hygroscopic. Keep under lock and key or accessible only to specialists or people who are authorized.

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

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

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

8.2. Exposure controls

Exposure controls

See Section 7. No measures exeeding the ones mentioned necessary.

General protective and hygiene measures

Keep away from food-stuffs, beverages and feed-stocks. 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. Do not inhale gases/vapours/aerosols.

Respiratory protection

If vapours occur, use filter type A (= against vapours of organic compounds) according to EN 14387. At intensive and longer exposition use self-contained breathing apparatus.

Hand protection

Use	Permanent hand contact	
Appropriate Material	Butyl rubber - Butyl	
Material thickness	0.7	mm
Breakthrough time	480	min
Hand protection must comply with EN 374.		
Use	Short-term hand contact	
Appropriate Material	viton	
Material thickness	0.7	mm
Breakthrough time	120	min
Hand protection must comply with EN 374.		

Eye protection

Eye protection must comply with EN 166. Tightly fitting safety glasses

Body protection

Fire-resistant antistatic protective clothing

Environmental exposure controls

Do not allow to enter drains or water courses.

SECTION 9: Physical and chemical properties ***

9.1. Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless
Odour	characteristic

Melting point

Value	-97.8	°C
Source	ECHA	

Freezing point

Value	- 98	°C

Boiling point or initial boiling point and boiling range

Value	64.7	°C
Pressure	1013 hPa	
Source	ECHA	

Upper and lower explosive limits

Lower explosion limit	5.5	to	44	%(V)

Flash point

Value	9.7	°C
Method	Regulation (EC) No. 440/2008, Annex, A.9	

Ignition temperature

Value	455	°C

Method	DIN 51794				

pH value

Remarks	No data available				

Viscosity

dynamic

Value	>	0.544	to	0.59	mPa.s
Temperature		25	°C		

kinematic

Value		0.54	to	0.59	mm²/s
Temperature		20	°C		

Partition coefficient n-octanol/water (log value)

log Pow		-0.77			

Vapour pressure

Value		169.27			hPa
Temperature		25	°C		

Density and/or relative density

Value		0.79	to	0.8	g/cm³
Temperature		20	°C		
Remarks	Relative Density according specification				

Relative vapour density

Value		1.11			

9.2. Other information

Odour threshold

Value		10			µg/l

Evaporation rate

Value		6.3			

Solubility in water

Value		1000			g/l
Temperature		20	°C		

Minimum ignition energy

Minimum ignition energy		0.14			MJ

Auto-ignition temperature

Value		455			°C

Explosive properties

evaluation	No data available				

Other information

Forms esplosive mixture with air are possible.

SECTION 10: Stability and reactivity

10.1. Reactivity

Risk of ignition or formation of inflammable gases or vapours with: Air

10.2. Chemical stability

No decomposition if stored and applied as directed.

10.3. Possibility of hazardous reactions

Possible incompatibility with materials lister under section 10.5.

10.4. Conditions to avoid

Heat. Sparks

10.5. Incompatible materials

Risk of explosion with: Oxidising agents, Sodium hypochlorite, Nitrogen oxides (NOx), Reaction with Sulfuric acid. Explosive reactions with oxidising agents such as potassium chlorate and/or peroxides. Halogens, Reactions with halogenated compounds. lithium tetrahydrioaluminate, hydrogen peroxide (H2O2), Magnesium, Reaction with nitric acid. Exothermic reaction with acids. Incompatible with acid chlorides and acid anhydrides. Reducing agents, chlorine liquide, Magnesium, Fluorine, Phosphorus oxides, Developpment of toxic gases/vapours. Alkaline metals, Reactions with earth alkali metals.

10.6. Hazardous decomposition products

In the event of fire the following can be released: Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information

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

Acute oral toxicity

ATE	100.1	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	

Acute dermal toxicity

ATE	300.1	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)	

Acute inhalational toxicity

ATE	3.1	mg/l
Administration/Form	Vapors	
Method	calculated value (Regulation (EC) No. 1272/2008)	
ATE	0.5	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	

Skin corrosion/irritation (Components)

methanol

Species	rabbit
Remarks	No effect of irritation known.
Source	ECHA

Serious eye damage/irritation (Components)

methanol

Species	rabbit
Method	OECD 405
Remarks	None

Sensitization (Components)

methanol

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

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

Reproduction toxicity (Components)

methanol

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

Carcinogenicity (Components)

methanol

Remarks	None

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

11.2 Information on other hazards

Endocrine disrupting properties with respect to humans

This substance does not have endocrine disrupting properties with respect to humans.

Experience in practice

May lead to nausea, headache, drowsiness and dizziness. When swallowed, there is a danger of blindness. Liver damage is possible. Kidney damange is possible. Heart damange is possible.

SECTION 12: Ecological information

12.1. Toxicity

Fish toxicity (Components)

methanol

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

Daphnia toxicity (Components)

methanol

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

Algae toxicity (Components)

methanol

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

Bacteria toxicity (Components)

methanol

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

12.2. Persistence and degradability

General information

Do not allow it to reach soil, ground water, water bodies or sewage system.

Biodegradability (Components)

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		

methanol

Value	95		%
Duration of test	20	d	
Source	Safety Data Sheet Supplier		

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 -0.77

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

Moderately mobile in soils

Mobility in soil (Components)

methanol

Will not adsorb on soil.

12.5. Results of PBT and vPvB assessment

General information

Do not allow to enter drains or water courses

Results of PBT and vPvB assessment

The Substance does not meet PBT-criteria.
This substance does not meet the vPvB-criteria.

12.6 Endocrine disrupting properties

Endocrine disrupting properties with respect to the envrionment

This substance does not have endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

General information / ecology

Do not allow 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.
Disposal in compliance with local and national regulations.
EWC waste code Should not be released into the sanitary sewer system.

Disposal recommendations for packaging

Disposal in compliance with local and national regulations.

Unpurified packings can contain mixtures of gas and air which are capable of explosion.

SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
Tunnel restriction code	D/E		
14.1. UN number	1230	1230	1230
14.2. UN proper shipping name	METHANOL	METHANOL	METHANOL
14.3. Transport hazard class(es)	3	3	3
Subsidiary risk	6.1	6.1	6.1
Label			
14.4. Packing group	II	II	II
Limited Quantity	1 l		
Transport category	2		

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 2
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 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.
H331	Toxic if inhaled.
H370	Causes damage to organs.

CLP categories listed in Chapter 3

Acute Tox. 3	Acute toxicity, Category 3
Flam. Liq. 2	Flammable liquid, Category 2
STOT SE 1	Specific target organ toxicity - single exposure, Category 1

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.