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

1.1. Product identifier

Trade name/designation:

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

Use of the substance/mixture:
Evaporation liquid

1.3. Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor):
MIG-O-MAT Mikrofügetechnik GmbH
Werksstraße 20
57299 Burbach
Telephone: +49 (0) 2736 4154 0
Telefax: +49 (0) 2736 4154 99
E-mail: info@mig-o-mat.com
Website: www.mig-o-mat.com
E-mail (competent person): reach@tuev-sued.de
TÜV SÜD Industrie Service GmbH - Environmental Service REACH - Westendstraße 199 - 80686 Munich - Germany +49 (0) 89 5791 3031

1.4. Emergency telephone number

Antipoison Center Munich , 24h: +49 (0) 89 19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Hazard classes and hazard categories	Hazard statements	Classification procedure
flammable liquids *(Flam. Liq. 2)*	H225: Highly flammable liquid and vapour.	On basis of test data.
Acute toxicity (oral) *(Acute Tox. 3)*	H301: Toxic if swallowed.	Minimum classification.
Acute toxicity (dermal) *(Acute Tox. 3)*	H311: Toxic in contact with skin.	Minimum classification.
Acute toxicity (inhalative) *(Acute Tox. 3)*	H331: Toxic if inhaled.	Minimum classification.
STOT-single exposure *(STOT SE 1)*	H370: Causes damage to organs. (...)	Minimum classification.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms:

GHS02
Flame

GHS06
Skull and crossbones

GHS08
Health hazard

Signal word: Danger

Hazard components for labelling:
Methanol

hazard statements for physical hazards	
H225	Highly flammable liquid and vapour.

hazard statements for health hazards	
H301 + H311 + H331	Toxic if swallowed, in contact with skin or if inhaled.
H370	Causes damage to organs. (eyes)

Supplemental Hazard information (EU): -

Precautionary statements Prevention	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Precautionary statements Response	
P302 + P352.1	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/physician.
P308 + P311.1	IF exposed or concerned: Call a POISON CENTER.
P361	Take off immediately all contaminated clothing.

2.3. Other hazards

Adverse physicochemical effects:
No information available.

Adverse human health effects and symptoms:
Risk of blindness after swallowing the product.

Adverse environmental effects:
No information available.

Other adverse effects:
No information available.

SECTION 3: Composition / information on ingredients

3.2. Mixtures

Hazardous ingredients / Hazardous impurities / Stabilisers:

product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008-[CLP]	Concen-tration
CAS No.: 67-56-1 **EC No.:** 200-659-6	**methanol** Flam. Liq. 2, Acute Tox. 3, STOT SE 1  **Danger** H225-H301-H311-H331-H370	> 92 – < 98 Wt %
CAS No.: 121-43-7 **EC No.:** 204-468-9	**trimethyl borate** Flam. Liq. 3, Acute Tox. 4  **Warning** H226-H312	> 2 – < 8 Wt %

Full text of H- and EUH-phrases: see section 16.

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 if you feel unwell, seek medical advice immediately (show the label where possible).
If unconscious place in recovery position and seek medical advice.
Symptoms of poisoning may develop several hours following exposure. Victim should be under medical observation for at least 48 hours after exposure.

Following inhalation:
Provide fresh air.
Position and transport victim on their side. In case of respiratory distress, bring into semi-upright, seated position.
In case of breathing difficulties administer oxygen.

In case of skin contact:
After contact with skin, wash immediately with plenty of water and soap.
In case of skin irritation, consult a physician.

After eye contact:
In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.

After ingestion:
Let water be drunken in little sips (dilution effect).
Induce vomiting when the affected person is not unconscious.
Consult physician immediately.

4.2. Most important symptoms and effects, both acute and delayed
Drowsiness
Dyspnoea
Unconsciousness
Vomiting
Headache
Spasms
Impairment of vision
If swallowed there is a risk of blindness.
Nausea

4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically. Antidotal dispensation.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:
Carbon dioxide (CO2) Sand Dry extinguishing powder alcohol resistant foam

Unsuitable extinguishing media:
Full water jet

5.2. Special hazards arising from the substance or mixture
Vapours are heavier than air, spread along floors and form explosive mixtures with air. Take precautionary measures against static discharges.

5.3. Advice for firefighters
Wear full chemical protective clothing.

5.4. Additional information
Do not allow run-off from fire-fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
Personal precautions:
See protective measures under point 7 and 8.
Keep away from sources of ignition - No smoking.

6.1.2. For emergency responders
Personal protection equipment:
Chemical protection clothing

6.2. Environmental precautions
Do not allow to enter into surface water or drains.

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6.3. Methods and material for containment and cleaning up

For cleaning up:
Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).
Ventilate affected area. Clear contaminated areas thoroughly.

6.4. Reference to other sections

No data available

6.5. Additional information

See section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures

Advices on safe handling:
Keep away from living quarters. Keep container in a well-ventilated place. Not recommended for interior use on large surface areas. Avoid exposure - obtain special instructions before use.

Fire prevent measures:
Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges.
Fire class: B
Temperature class: T1
Explosion group: II A

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels:
Keep container tightly closed. Use only in well-ventilated areas.
Keep away from heat.
Store in a place accessible by authorized persons only.

Hints on storage assembly:
Unsuitable material for Container: Lead Aluminium Zinc PolyStyrene

Storage class: 3 – Flammable liquids

Further information on storage conditions:
Storage class: 3A

7.3. Specific end use(s)

Recommendation:
refer to chapter 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Occupational exposure limit values

Limit value type (country of origin)	**Substance name**	**① long-term occupational exposure limit value ② short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark**
IOELV (EU)	methanol CAS No.: 67-56-1	① 200 ppm (260 mg/m³) ⑤ (may be absorbed through the skin)
TRGS 900 (DE)	methanol CAS No.: 67-56-1	① 200 ppm (270 mg/m³) ② 800 ppm (1,080 mg/m³) ⑤ (kann über die Haut aufgenommen werden)

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8.1.2. Biological limit values

Limit value type (country of origin)	Substance name	Limit value	① parameter ② Test material ③ Time of sampling ④ Remark
TRGS 903 (DE)	methanol CAS No.: 67-56-1	30 mg/L	① Methanol ② Urin ③ bei Langzeitexposition, Expositionsende bzw. Schichtende

8.1.3. DNEL-/PNEC-values

Substance name	DNEL value	① DNEL type ② Exposure route
methanol CAS No.: 67-56-1	260 mg/m³	① DNEL worker ② DNEL acute inhalative (local)
methanol CAS No.: 67-56-1	50 mg/m³	① DNEL Consumer ② DNEL acute inhalative (local)
methanol CAS No.: 67-56-1	260 mg/m³	① DNEL worker ② DNEL long-term inhalative (local)
methanol CAS No.: 67-56-1	40 mg/kg bw/day	① DNEL worker ② DNEL acute dermal, short-term (local)
methanol CAS No.: 67-56-1	8 mg/kg bw/day	① DNEL Consumer ② DNEL long-term dermal (local)

Substance name	PNEC Value	① PNEC type
methanol CAS No.: 67-56-1	20.8 mg/l	① PNEC aquatic, freshwater
methanol CAS No.: 67-56-1	2.08 mg/l	① PNEC aquatic, marine water
methanol CAS No.: 67-56-1	100 mg/l	① PNEC sewage treatment plant (STP)

8.2. Exposure controls

8.2.1. Appropriate engineering controls

If local exhaust ventilation is not possible or not sufficient, the entire working area must be ventilated by technical means.

8.2.2. Personal protection equipment

Eye/face protection:

Tightly sealed safety glasses. DIN EN 166

Skin protection:

Hand protection: Wear suitable protective clothing and gloves. DIN EN 374
Suitable material: Butyl caoutchouc (butyl rubber)
Thickness of the glove material: > 0.5 mm
Breakthrough time (maximum wearing time): > 480min

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.
Filtering device with filter or ventilator filtering device of type: AX

Other protection measures:

Protective clothing: Only wear fitting, comfortable and clean protective clothing.
General health and safety measures: When using do not eat, drink, smoke, sniff.
Avoid contact with eyes and skin.
Wash hands and face before breaks and after work and take a shower if necessary.
Take off contaminated clothing.

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8.2.3. Environmental exposure controls
Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

8.3. Additional information
No data available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance
Physical state: Liquid
Colour: colourless
Odour: like: Alcohol
Odour threshold: not determined

Safety relevant basis data

parameter		at °C	Method	Remark
pH	*not determined*		No information available.	
Melting point	*not determined*			
Freezing point	*not determined*			
Initial boiling point and boiling range	65 – 70 °C			
Decomposition temperature (°C):	*not determined*			
Flash point	11 – 15 °C			
Evaporation rate	*not determined*			
Ignition temperature in °C	455 °C			
Upper/lower flammability or explosive limits	5.5 – 44 Vol-%			
Vapour pressure	125 – 128 hPa	20 °C		
Vapour density	*not determined*			
Relative density	*not determined*			
Bulk density	*not determined*			
Water solubility	*not determined*			
Partition coefficient: n-octanol/ water	*not determined*			
Dynamic viscosity	*not determined*			
Kinematic viscosity	*not determined*	40 °C		

9.2. Other information
In use may form flammable/explosive vapour-air mixture.

SECTION 10: Stability and reactivity

10.1. Reactivity
This material is considered to be non-reactive under normal use conditions.

10.2. Chemical stability
The substance is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions
Exothermic reactions with: Reducing agent. Acid ,, Chloroform
, Oxidising agent, Peroxides, Acid halides , Hydrogen peroxide, Nitric acid
Vapours can form explosive mixtures with air.

10.4. Conditions to avoid
Heat

10.5. Incompatible materials
Aluminium, Zinc

10.6. Hazardous decomposition products
No known hazardous decomposition products.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

CAS No.	Substance name	Toxicological information
67-56-1	methanol	**LD_{50} oral:** 5,625 mg/kg (Ratte) Lit: IUCLID **LD_{50} dermal:** 15,800 mg/kg (Kaninchen) Lit: TOXNET **LC_{50} inhalative:** 85.3 mg/l 4 h (Ratte) Lit: IUCLID **ATE oral:** 100 mg/kg **ATE dermal:** 300 mg/kg **ATE inhalativ Dämpfe:** 11 mg/l

Acute oral toxicity:
Acute Tox. 3
Practical/human experience.

Acute dermal toxicity:
Acute Tox. 3
Practical/human experience.

Acute inhalation toxicity:
Acute Tox. 3
Practical/human experience.

Skin corrosion/irritation:
Not an irritant.
Has degreasing effect on the skin.

Serious eye damage/irritation:
slightly irritant but not relevant for classification.

Respiratory or skin sensitisation:
not sensitising.

Germ cell mutagenicity:
negative.

Carcinogenicity:
Ames test negative.
Chromosomal aberrations mammalian cells negative.

Reproductive toxicity:
negative.

STOT-single exposure:
Causes damage to organs.
Organs affected: Eye

STOT-repeated exposure:
No information available.

Additional information:
Repeated dose toxicity (subacute, subchronic, chronic): Nausea Vomiting Headache Dizziness Inebriation Impairment of vision If swallowed there is a risk of blindness.
Most important symptoms and effects, both acute and delayed :
acidose , Blood pressure drop Agitation Spasms Anaesthetic state. coma.

SECTION 12: Ecological information

12.1. Toxicity

CAS No.	Substance name	Toxicological information
67-56-1	methanol	**LC_{50}:** 15,400 mg/l 4 d (Fische) **EC_{50}:** 10,000 mg/l 2 d (Daphnien)

Aquatic toxicity:
There are no data available on the preparation/mixture itself.

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Terrestrial toxicity:
There are no data available on the preparation/mixture itself.

Effects in sewage plants:
There are no data available on the preparation/mixture itself.

12.2. Persistence and degradability

CAS No.	Substance name	Biodegradation	Remark
67-56-1	methanol	Yes, rapidly	
121-43-7	trimethyl borate	not applicable	

Additional information:
Further ecological information: Readily biodegradable (according to OECD criteria).

12.3. Bioaccumulative potential

Accumulation / Evaluation:
Partition coefficient: n-octanol/water -0.74
Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

CAS No.	Substance name	Results of PBT and vPvB assessment
67-56-1	methanol	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.
121-43-7	trimethyl borate	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects

Chemical oyxgen demand (COD): 1.42 g/g Methanol
Biochemical oxygen demand (BOD): 0.6 -1.12 g/g Methanol
Further ecological information: Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.
There are no data available on the preparation/mixture itself.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Consult the appropriate local waste disposal expert about waste disposal.
This material and its container must be disposed of as hazardous waste.

13.1.1. Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV

Waste code product:

07 07 04 *	other organic solvents, washing liquids and mother liquors

*: Evidence for disposal must be provided.

Waste code packaging:

07 07 04 *	other organic solvents, washing liquids and mother liquors

*: Evidence for disposal must be provided.

Waste treatment options

Appropriate disposal / Package:
Contaminated packages must be completely emptied and can be re-used following proper cleaning.

13.2. Additional information

No data available

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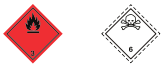
SECTION 14: Transport information

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1. UN-No.			
UN 1230	UN 1230	UN 1230	UN 1230
14.2. UN proper shipping name			
METHANOL	METHANOL	METHANOL	METHANOL
14.3. Transport hazard class(es)			
 3 6.1	 3 6.1	 3 6.1	 3 6.1
14.4. Packing group			
II	II	II	II
14.5. Environmental hazards			
No	No	No	No
14.6. Special precautions for user			
Special provisions: 279 **Limited quantity (LQ):** **Hazard identification number (Kemler No.):** 336 **Classification code:** - **tunnel restriction code:** (D/E) **Remark:**	**Special provisions:** **Limited quantity (LQ):** **Classification code:** - **Remark:**	**Special provisions:** **Limited quantity (LQ):** **EmS-No.:** **Remark:** EmS-No.: 3-06 MFAG: 306	**Special provisions:** **Limited quantity (LQ):** **Remark:**

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available

SECTION 15: Regulatory information

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

15.1.1. EU legislation

Restrictions on use:

Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.
Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

15.1.2. National regulations

[DE] National regulations

Restrictions of occupation

§ 5 MuSchRiV
§ 22 JArbSchG
§ 4 MuSchRiV

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Annex Chemikalien-Verbotsverordnung (ChemVerbotsV)
Do not sell or give to persons under the age of 18 years.

Betriebssicherheitsverordnung (BetrSichV)
leichtentzündlich

Water hazard class (WGK)
WGK:
1 - schwach wassergefährdend

Source:
Self-classification

15.2. Chemical Safety Assessment
Chemical safety assessments for substances in this preparation were not carried out.

15.3. Additional information
No data available

SECTION 16: Other information

16.1. Indication of changes
No data available

16.2. Abbreviations and acronyms
See overview table at www.euphrac.eu

16.3. Key literature references and sources for data
REACH Dissemination Portal

16.4. Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]
Classification according to Regulation (EC) No 1272/2008 [CLP]-:

Hazard classes and hazard categories	Hazard statements	Classification procedure
flammable liquids *(Flam. Liq. 2)*	H225: Highly flammable liquid and vapour.	On basis of test data.
Acute toxicity (oral) *(Acute Tox. 3)*	H301: Toxic if swallowed.	Minimum classification.
Acute toxicity (dermal) *(Acute Tox. 3)*	H311: Toxic in contact with skin.	Minimum classification.
Acute toxicity (inhalative) *(Acute Tox. 3)*	H331: Toxic if inhaled.	Minimum classification.
STOT-single exposure *(STOT SE 1)*	H370: Causes damage to organs. (...)	Minimum classification.

16.5. Relevant R-, H- and EUH-phrases (Number and full text)

Hazard statements	
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs. (...)

16.6. Training advice
Make sure that employees are aware of the intoxication risk. Poeple wearing breathing apparatus must be appropriately trained.

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16.7. Additional information

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.

This Safety Data Sheet was drawn up by
TÜV SÜD Industrie Service GmbH (see below),
based on data from the supplier, who is named in section 1
and who is responsible for this document.
TÜV SÜD Industrie Service GmbH
Department Environmental Service
Westendstraße 199
80686 Munich - Germany