

Safety Data Sheet
 acc. to OSHA HCS

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Printing date 07/13/2018
 Reviewed on 07/13/2018
 Version number: 4

1 Identification

- **Product identifier**
- **Trade name:** methanol
- **Article number:** A3493
- **CAS Number:**
67-56-1
- **EC number:**
200-659-6
- **Index number:**
603-001-00-X
- **Application of the substance / the mixture** Laboratory chemical
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
AppliChem GmbH
Ottoweg 4
D-64291 Darmstadt
- **Information department:** Dept. Compliance
- **Emergency telephone number:** +49(0)6151 93570 (Inside normal business hours)

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2 Hazard(s) identification

- **Classification of the substance or mixture**
 Flam. Liq. 2 H225 Highly flammable liquid and vapor.
 Acute Tox. 3 H301 Toxic if swallowed.
 Acute Tox. 3 H311 Toxic in contact with skin.
 Acute Tox. 3 H331 Toxic if inhaled.
 STOT SE 1 H370 Causes damage to organs.

- **Label elements**
- **GHS label elements**
 The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02 GHS06 GHS08

- **Signal word** Danger
- **Hazard statements**
 H225 Highly flammable liquid and vapor.
 H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled.
 H370 Causes damage to organs.
- **Precautionary statements**
 P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 P240 Ground/bond container and receiving equipment.
 P241 Use explosion-proof electrical/ventilating/lighting/equipment.
 P242 Use only non-sparking tools.
 P243 Take precautionary measures against static discharge.
 P260 Do not breathe dust/fume/gas/mist/vapors/spray.

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P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	If swallowed: Immediately call a poison center/doctor.
P321	Specific treatment (see on this label).
P330	Rinse mouth.
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a poison center/doctor if you feel unwell.
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use for extinction: CO2, powder or water spray.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**



- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
67-56-1 methanol
- **Identification number(s)**
- **EC number:** 200-659-6
- **Index number:** 603-001-00-X

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
Call a doctor immediately.
Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

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- **After swallowing:** Do not induce vomiting; immediately call for medical help.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
Combustible.
Vapours are heavier than air and may spread along floors.
Beware of backfiring.
Can form explosive gas-air mixtures.
Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**
Cool endangered receptacles with water spray.
Collect contaminated fire fighting water separately. It must not enter the sewage system.

* 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Keep away from ignition sources
Do not inhale steams/aerosols.
Ensure adequate ventilation
- **Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**
- **PAC-1:** 530 ppm
- **PAC-2:** 2,100 ppm
- **PAC-3:** 7200* ppm

* 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

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Keep respiratory protective device available.

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Recommended storage temperature:** +15 - +25 °C
- **Storage class:** 3
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

67-56-1 methanol

PEL	Long-term value: 260 mg/m ³ , 200 ppm
REL	Short-term value: 325 mg/m ³ , 250 ppm Long-term value: 260 mg/m ³ , 200 ppm Skin
TLV	Short-term value: 328 mg/m ³ , 250 ppm Long-term value: 262 mg/m ³ , 200 ppm Skin; BEI

- **Ingredients with biological limit values:**

67-56-1 methanol

BEI	15 mg/L Medium: urine Time: end of shift Parameter: Methanol (background, nonspecific)
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- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.
- **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
Short term filter device:
Filter AX
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

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• **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

• **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

• **For the permanent contact gloves made of the following materials are suitable:**

Butyl rubber, BR

Recommended thickness of the material: ≥ 0.7 mm

Value for the permeation: Level ≥ 480 Min.

• **As protection from splashes gloves made of the following materials are suitable:**

Recommended thickness of the material: ≥ 0.7 mm

Fluorocarbon rubber (Viton)

Value for the permeation: Level ≥ 120 Min.

• **Eye protection:** Safety glasses

• **Body protection:** Solvent resistant protective clothing

9 Physical and chemical properties

• **Information on basic physical and chemical properties**

• **General Information**

• **Appearance:**

Form:	Fluid
Color:	Colorless
Odor:	Alcohol-like

• **pH-value:** Not determined.

• **Change in condition**

Melting point/Melting range: -98 °C (-144.4 °F)

Boiling point/Boiling range: 64.7 °C (148.5 °F)

• **Flash point:** 10 °C (50 °F)

• **Ignition temperature:** 455 °C (851 °F)

• **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

• **Explosion limits:**

Lower: 5.5 Vol %

Upper: 44 Vol %

• **Vapor pressure at 20 °C (68 °F):** 128 hPa (96 mm Hg)

• **Density at 20 °C (68 °F):** 0.792 g/cm³ (6.609 lbs/gal)

• **Solubility in / Miscibility with**

Water: Fully miscible.

• **Partition coefficient (n-octanol/water):** -0.77211

• **Viscosity:**

Dynamic at 20 °C (68 °F): 0.597 mPas

Kinematic: Not determined.

• **Other information**

No further relevant information available.

* 10 Stability and reactivity

• **Reactivity** No dangerous reactions known.

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- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
Visible decomposition with spontaneous ignition on heating.
- **Possibility of hazardous reactions**
Reacts with oxidizing agents.
Danger of explosion.
Forms explosive gas mixture with air.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** Varios plastics
- **Hazardous decomposition products:** In the event of fire: See chapter 5

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**

	Components	Type	Value	Species
	Oral	LD50	5,628 mg/kg (rat)	
	Dermal	LD50	17,100 mg/kg (rabbit)	

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)** Substance is not listed.
- **NTP (National Toxicology Program)** Substance is not listed.
- **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:**

	Type of test	Effective concentration	Method	Assessment
	EC50/48 h	>10,000 mg/l	(daphnia magna)	
	EC50/96 h	22,000 mg/l	(Algae)	
	LC50/96 h	15,400 mg/l	(fish)	

- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (Assessment by list): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

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13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- | | |
|---|---------------------------|
| · UN-Number | UN1230 |
| · DOT, ADR, IMDG, IATA | |
| · UN proper shipping name | Methanol |
| · DOT, ADR | METHANOL |
| · IMDG, IATA | |
| · Transport hazard class(es) | |
| · DOT | |
|   | |
| · Class | 3 Flammable liquids |
| · Label | 3, 6.1 |
| · ADR | |
|   | |
| · Class | 3 (FT1) Flammable liquids |
| · Label | 3+6.1 |
| · IMDG | |
|   | |
| · Class | 3 Flammable liquids |
| · Label | 3/6.1 |
| · IATA | |
|   | |
| · Class | 3 Flammable liquids |
| · Label | 3 (6.1) |
| · Packing group | II |
| · DOT, ADR, IMDG, IATA | |
| · Environmental hazards: | |
| · Marine pollutant: | No |

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- | | |
|---|---|
| <ul style="list-style-type: none"> • Special precautions for user • Danger code (Kemler): • EMS Number: • Stowage Category • Stowage Code | <p>Warning: Flammable liquids
336
F-E,S-D
B
SW2 Clear of living quarters.</p> |
| <ul style="list-style-type: none"> • Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | <p>Not applicable.</p> |
| <ul style="list-style-type: none"> • Transport/Additional information: | |
| <ul style="list-style-type: none"> • ADR • Excepted quantities (EQ) | <p>Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml</p> |
| <ul style="list-style-type: none"> • IMDG • Limited quantities (LQ) • Excepted quantities (EQ) | <p>1L
Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml</p> |
| <ul style="list-style-type: none"> • UN "Model Regulation": | <p>UN 1230 METHANOL, 3 (6.1), II</p> |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**
- **Section 355 (extremely hazardous substances):** Substance is not listed.
- **Section 313 (Specific toxic chemical listings):** Substance is listed.
- **TSCA (Toxic Substances Control Act):** Substance is listed.
- **Proposition 65**
- **Chemicals known to cause cancer:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
- **Chemicals known to cause developmental toxicity:** Substance is listed.
- **Carcinogenity categories**
- **EPA (Environmental Protection Agency)** Substance is not listed.
- **TLV (Threshold Limit Value established by ACGIH)** Substance is not listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
- **GHS label elements**
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02 GHS06 GHS08

- **Signal word** Danger
- **Hazard statements**
 - H225 Highly flammable liquid and vapor.
 - H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled.
 - H370 Causes damage to organs.
- **Precautionary statements**
 - P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 - P240 Ground/bond container and receiving equipment.
 - P241 Use explosion-proof electrical/ventilating/lighting/equipment.
 - P242 Use only non-sparking tools.

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Trade name: methanol

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P243	Take precautionary measures against static discharge.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	If swallowed: Immediately call a poison center/doctor.
P321	Specific treatment (see on this label).
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P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use for extinction: CO ₂ , powder or water spray.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

• **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Dept. Compliance
- **Date of preparation / last revision** 07/13/2018 / 3
- **Abbreviations and acronyms:**
 - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 - ICAO: International Civil Aviation Organisation
 - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 - IMDG: International Maritime Code for Dangerous Goods
 - DOT: US Department of Transportation
 - IATA: International Air Transport Association
 - ACGIH: American Conference of Governmental Industrial Hygienists
 - EINECS: European Inventory of Existing Commercial Chemical Substances
 - CAS: Chemical Abstracts Service (division of the American Chemical Society)
 - NFPA: National Fire Protection Association (USA)
 - HMIS: Hazardous Materials Identification System (USA)
 - LC50: Lethal concentration, 50 percent
 - LD50: Lethal dose, 50 percent
 - PBT: Persistent, Bioaccumulative and Toxic
 - vPvB: very Persistent and very Bioaccumulative
 - NIOSH: National Institute for Occupational Safety
 - OSHA: Occupational Safety & Health
 - TLV: Threshold Limit Value
 - PEL: Permissible Exposure Limit
 - REL: Recommended Exposure Limit
 - BEI: Biological Exposure Limit
 - Flam. Liq. 2: Flammable liquids – Category 2
 - Acute Tox. 3: Acute toxicity – Category 3
 - STOT SE 1: Specific target organ toxicity (single exposure) – Category 1

• *** Data compared to the previous version altered.**

US