SAFETY DATA SHEET

Methanol (Methyl Alcohol)

Version 2 · issued 9 November 2026

1. IDENTIFICATION

Product Identifiers

Product Name	Methanol (Methyl Alcohol)
Other Names	Methyl Alcohol
Product Number(s)	179337, 18510, 18511, CMZ-179305, CMZ-179310, CMZ-179325, EMS18510, EMS18511
CAS Number	67-56-1

Recommended use of the chemical and restriction on use

Laboratory chemicals. For R&D use only. Not for pharmaceutical, household or other uses.

Company Details

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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS02 Flame
Flammable liquids 2 H225 Highly flammable liquid and vapour
GHS08 Health Hazard
STOT SE 1 H370 Causes damage tot the central nervous system and the visual organs
GHS07
Acute Tox 4. H302 Harmful if swallowed
Acute Tox 4. H312 Harmful in contact with skin
Acute Tox 4. H332 Harmful if inhaled

Label Elements

Flammable • Harmful / irritant • Health hazard

Signal Words	Danger
Hazard Statement(s)	Highly flammable liquid and vapour. Toxic if swallowed, in contact with skin or if inhaled. Causes damage to organs (Eyes, Central nervous system).
Precautionary Statement(s)	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapours/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection

Primary route(s) of entry

inhalation, ingestion and dermal absorption. Methanol vapours may be inhaled, while liquid methanol can be absorbed through the skin or enter the body through accidental ingestion. Eye contact may also result in exposure.

Human Health

Inhalation	Remove person to fresh air and keep comfortable for breathing.IF exposed: Call a POISON CENTER or doctor/physician.
Ingestion	Call a poison center/doctor if you feel unwell.IF exposed: Call a POISON CENTER or doctor/physician. Rinse mouth.
Eyes	IF exposed: Call a POISON CENTER or doctor/physician.
Skin	Take off immediately all contaminated clothing. Rinse skin with water/shower IF exposed: Call a POISON CENTER or doctor/physician.

Environment

Storage:
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Other Hazards In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Name	CAS No.	Content (w/w)	Classification
Methyl Alcohol	67-56-1	>= 60 - <= 100%	Not Available

4. FIRST AID MEASURES

Ingestion	Immediately contact the Poisons Information Centre (13 11 26) or seek urgent medical attention. Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Obtain immediate medical attention, even if symptoms are not present, as toxic effects may be delayed. Methanol ingestion may cause severe systemic toxicity, including metabolic acidosis, visual impairment, blindness and potentially death.
Inhalation	Supply fresh air or oxygen; call for doctor. In case of unconsciousness place patient stably in side position for transportation
Skin Contact	Immediately wash with water and soap and rinse thoroughly
Eye Contact	Rinse opened eye for several minutes under running water. Then consult a doctor
Other Information	No further relevant information available

5. FIREFIGHTING MEASURES

Suitable extinguishing equipment

Fire	CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Hazardous combustion products: Carbon oxides.
HAZCHEM	•2WE

Special protective equipment and precautions for fire fighters

Mouth respiratory protective device.
Pay attention to flashback.
Vapours are heavier than air and may spread along floors.
Development of hazardous combustion gases or vapours possible in the event of fire.
Forms explosive mixtures with air at ambient temperatures.
Specific extinguishing methods: Remove container from danger zone and cool with water.
Prevent fire extinguishing water from contaminating surface water or the ground water system.
Specific extinguishing methods: Remove container from danger zone and cool with water.
Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Do not breathe vapours, aerosols.
Avoid substance contact.
Ensure adequate ventilation.
Keep away from heat and sources of ignition.
Evacuate the danger area, observe emergency procedures, consult an expert.
Advice for emergency responders: Wear appropriate personal protective equipment, as indicated in Section 8.

Environmental precautions
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
Risk of explosion.

Methods and materials for containment and clean 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. Cover drains. Collect, bind, and pump off spills.

7. HANDLING AND STORAGE

Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
Keep away from open flames, hot surfaces and sources of ignition.
Take precautionary measures against static discharge.

Conditions for safe storage
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Keep container tightly closed in a dry and wellventilated place.
Keep away from heat and sources of ignition.
Keep locked up or in an area accessible only to qualified or authorised persons.
Storage class : 3, Flammable liquids
Recommended storage temperature: Recommended storage temperature if relevant, see product label.
Packaging material: Suitable material: Any Metal Drum

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Standards

Material	TWA ppm	TWA mg/m³	STEL ppm	STEL mg/m³
Methanol	200 ppm	262 mg/m3	250 ppm	328 mg/m3

Engineering controls
No data available.

Personal protective equipment

Eye and face protection
Tightly sealed goggles

Skin protection
Protective gloves

Body protection
Protective clothing

Respiratory protection
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

9. PHYSICAL AND CHEMICAL PROPERTIES

General information

Appearance
Colourless fluid

Odour
Alcohol-like

pH
Not determined

Vapour Pressure
128 hPa (96 mm Hg) at 20 °C (68 °F)

Density
0.79 g/cm³ (6.59255 lbs/gal) at 20 °C (68 °F)

Boiling Point
64.7 °C (148.5 °F)

Melting Point
-98 °C (-144.4 °F)

Solubility
Fully miscible.

Specific Gravity of Density
Not determined.

Flash Point
11 °C (51.8 °F)

Flammable (Explosive) Limits
Lower 5.5 Vol %, Upper 44 Vol %

Ignition Temperature
455 °C (851 °F)

Formula	CH3OH

10. STABILITY AND REACTIVITY

Reactivity	Vapours may form explosive mixture with air.
Chemical stability	No decomposition if used according to specifications.
Possibility of hazardous reactions	Risk of explosion with: Oxidizing agents perchloric acid perchlorates salts of oxyhalogenic acids chromium(VI) oxide halogen oxides nitrogen oxides nonmetallic oxides chromosulfuric acid chlorates hydrides zinc diethyl halogens powdered magnesium hydrogen peroxide Nitric acid sulfuric acid permanganic acid sodium hypochlorite Exothermic reaction with: acid halides Acid anhydrides Reducing agents acids Bromine Chlorine Chloroform magnesium tetrachloromethane Risk of ignition or formation of inflammable gases or vapours with: Fluorine Oxides of phosphorus Raney-nickel Generates dangerous gases or fumes in contact with: Alkaline earth metals Alkali metals
Conditions to avoid	Warming.
Incompatible materials	No further relevant information available

11. TOXICOLOGICAL INFORMATION

Acute effects	Acute toxicity estimate Oral - 100.1 mg/kg (Expert judgement) Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2) Symptoms: Nausea, Vomiting Acute toxicity estimate Inhalation - 4 h - 3.1 mg/l - vapour (Expert judgement) Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2) Symptoms: Irritation symptoms in the respiratory tract. Acute toxicity estimate Dermal - 300.1 mg/kg (Expert judgement) Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Eye contact	Eyes - Rabbit Result: No eye irritation Remarks: (ECHA)

Skin contact	Skin - Rabbit Result: No skin irritation SIGALD- 179337 Page 11 of 17 The life science business of Merck operates as MilliporeSigma in the US and Canada Remarks: (ECHA) Remarks: Drying-out effect resulting in rough and chapped skin.
Ingestion	No irritant effect
Inhalation	No irritant effect
Chronic effects	Acute effects:, Headache, Dizziness, Drowsiness, narcosis, Blindness, Impairment of vision, irritant effects, Nausea, Vomiting, agitation, spasms, inebriation, Coma, Drying-out effect resulting in rough and chapped skin. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Systemic effects: acidosis, drop in blood pressure, agitation, spasms, inebriation, Dizziness, Drowsiness, Headache, Impairment of vision, Blindness, narcosis, Coma, Symptoms may be delayed. Damage to: Liver, Kidney, Cardiac Irreversible damage of the optical nerve. Other dangerous properties can not be excluded. This substance should be handled with particular care.
Toxicity and irritation	Germ cell mutagenicity Based on available data the classification criteria are not met. Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative Test Type: In vitro mammalian cell gene mutation test Test system: Chinese hamster lung cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative Test Type: Micronucleus test Species: Mouse Cell type: Bone marrow Application Route: Intraperitoneal injection Method: OECD Test Guideline 474 Result: negative Carcinogenicity Did not show carcinogenic effects in animal experiments. Reproductive toxicity Based on available data the classification criteria are not met. Specific target organ toxicity - single exposure Causes damage to organs. - Eyes, Central nervous system Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2) Specific target organ toxicity - repeated exposure No data available Aspiration hazard No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill)): 15,400.0 mg/l
End point: mortality
Exposure time: 96 h
Test Type: flow-through test
Analytical monitoring: yes
Method: US-EPA
Toxicity to daphnia and
other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 18,260 mg/l
End point: Immobilization
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants: ErC50 (Pseudokirchneriella subcapitata (green algae)): ca. 22,000.0 mg/l
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The life science business of Merck operates as MilliporeSigma in the US
and Canada
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 201
Toxicity to fish (Chronic toxicity): NOEC (Oryzias latipes (Orange-red killifish)): 7,900 mg/l
Exposure time: 200 h
Remarks: (External MSDS)
Toxicity to microorganisms: IC50 (activated sludge): > 1,000 mg/l
Exposure time: 3 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 209

Persistence and degradability

Biodegradability : Result: Readily biodegradable.
Biodegradation: 99 %
Exposure time: 30 d
Method: OECD Test Guideline 301D
Biochemical Oxygen Demand (BOD): 600 - 1,120 mg/g
Incubation time: 5 d
Remarks: (IUCLID)
Chemical Oxygen Demand (COD): 1,420 mg/g
Remarks: (IUCLID)
ThOD : 1,500 mg/g
Remarks: (Lit.)
BOD/ThOD : 76 %
Remarks: Closed Bottle test (IUCLID)
Stability in water : Hydrolysis: 83 - 91 % at 19 °C(72 h)
Remarks: Hydrolyses on contact with water.
Hydrolyses readily.
Degradation half life: 2.2 yr
Remarks: reaction with hydroxyl radicals (IUCLID)
Photodegradation : Degradation (direct photolysis): 50 % Degradation half life: 17.2 d

Bioaccumulative potential

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 1.0
Exposure time: 72 d
Temperature: 20 °C
Concentration: 5 mg/l
Partition coefficient: noctanol/water
: log Pow: -0.77 (25 °C)
Method: (experimental)
Remarks: (HSDB)
Bioaccumulation is not expected.
Mobility in soil
Components:
Methanol:
Stability in soil : Remarks: Will not adsorb on soil.
Other adverse effects
Components:
Methanol:
Results of PBT and vPvB
assessment
: Not persistent, bioaccumulative, and toxic (PBT).
Additional ecological information
: Avoid release to the environment.
Endocrine disrup

Other adverse effects

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

13. DISPOSAL CONSIDERATIONS

General information

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

14. TRANSPORT INFORMATION

ADG label required
Class 3 Flammable liquid • Class 6.1 Toxic

HAZCHEM	•2WE
UN Number	UN1230
Proper shipping name	Methanol
Transport hazard class	3 Flammable liquids
Packing group	II
Environmental hazard	Not applicable.
Special precautions for users	Warning: Flammable liquids
Additional information	Not to be loaded with explosives (Class 1), flammable gases (Class 2.1), if both are in bulk, toxic gases (Class 2.3), spontaneously combustible substances (Class 4.2), oxidising agents (Class 5.1), organic peroxides (Class 5.2) or adioactive substances (Class 7), however exemptions may apply.

15. REGULATORY INFORMATION

Poisons Schedule Number

Chemical Safety Assessment
- Poison Schedule: S6
- TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight hour working day, for a five-day week.
- STEL (Short-Term Exposure Limit): The average airborne concentration over a 15-minute period which should not be exceeded at any time during a normal eight-hour work day.

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.

16. OTHER INFORMATION

SDS preparation date	9 November 2026
References	References

1. Safe Work Australia, Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice, (2011).
2. Safe Work Australia, National Code of Practice for the Labelling of Workplace Hazardous Chemicals (2015).
3. Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants (2013).
4. National Transport Commission Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code); Canprint: Canberra (2007), Volume 1, 7th Edition.
5. Standards Australia, Dangerous Goods Initial Emergency Response Guide: Australian Handbook (SAA/SNZ HB76); Homebush (2004).
6. Sigma-Aldrich SDS "Methanol". 08/09/2026 https://www.sigmaaldrich.com/AU/en/sds/sigald/179337?userType=anonymous.

This Safety Data Sheet (SDS) has been prepared in compliance with the Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice February 2016. It is the user's responsibility to determine the suitability of this information for adoption of necessary safety precautions. The information published in this SDS has been compiled from the publications listed in Section 16: to the best of our ability and knowledge these publications are considered accurate. We reserve the right to revise Safety Data Sheets as new information becomes available. Copies may be made for non-profit use.

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