

SAFETY DATA SHEET

according to 1907/2006/EC, Article 3

Version no. : 2.1
Prepared on : 30.03.2019
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SECTION 1: Identification of the substance/mixture and of the company/undertaking.

1.1 Product identifiers

Product name Methanol
Product Number PSI024
Brand PureSynth research chemicals
CAS No. 67-56-1

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

Identified uses : Laboratory chemicals

1.3 Details of the supplier of the safety data sheet

Company PureSynth Research Chemicals GmbH
64683 Einhausen Marie-Curie-Straße. 3, Germany

1.4 Emergency telephone number

Worldwide Helpline No.: 1800-8908-260

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 2), H225

Acute toxicity, Oral (Category 3), H301

Acute toxicity, Inhalation (Category 3), H331

Acute toxicity, Dermal (Category 3), H311

Specific target organ toxicity - single exposure (Category 1), Eyes, Central nervous system, H370

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word Danger

Hazard statement(s)

H225 Highly flammable liquid and vapor

H301 + H311 + H331 Toxic if swallowed, in contact with skin or if inhaled.

H370 Causes damage to organs (Eyes, Central nervous system).

Precautionary statement(s)

P210 Keep away from heat, hot surfaces, sparks, open flames and Other ignition sources. No smoking.

P233	Keep container tightly closed.
P280	Wear protective gloves/ protective clothing/ eye protection/ face Protection/ hearing protection.

Response

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable For breathing. Call a POISON CENTER/ doctor.
Supplemental Hazard Statements	none

2.3 Other hazards:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition / information on ingredients

3.1 Substances

Common names & Synonyms	Mol. formula	CAS number
Methyl alcohol	CH ₄ O	67-56-1
Component	Classification	Concentration
Methanol	specific concentration limit STOT SE 1; H370 ≥ 10 % STOT SE 2; H371 3 - < 10 % Acute toxicity estimate Acute oral toxicity: 100,1 mg/kg Acute inhalation toxicity (vapour): 3,1 mg/l Acute dermal toxicity: 300,1 mg/kg	≥ 90 - ≤ 100

SECTION 4: First aid measures

Description of first aid measures

General advice	First aiders need to protect themselves. Show this safety data sheet to the doctor in attendance.
If inhaled	After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.
In case of skin contact	In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.
In case of eye contact	After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.
If swallowed	After swallowing: fresh air. Make victim drink ethanol (e.g. 1 drinking glass of a 40% alcoholic beverage). Call a doctor immediately (mention methanol ingestion). Only in exceptional cases, if no medical care is available within one hour, induce vomiting (only in fully conscious persons) and make victim drink ethanol again (approx. 0.3 ml of a 40% alcoholic beverage/kg body weight/hour).

Most important symptoms and effects, both acute and delayed	The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
Indication of any immediate medical attention and special treatment needed	No data available

SECTION 5: Fire fighting measures

Extinguishing media	Foam Carbon dioxide (CO ₂) Dry powder Water
Suitable extinguishing media	Combustible.
Special hazards arising from the substance or mixture	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.
Advice for fire-fighters	Carbon oxides Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.
Further information	Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 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. For personal protection see section 8.
Environmental precautions	Do not let product enter drains. Risk of explosion.
Methods and materials for containment and cleaning up	Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10).
Reference to other sections	For disposal see section 13.

SECTION 7: Handling and storage

Precautions for safe handling	Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge. Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
Conditions for safe storage, including any incompatibilities	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.
Specific end use(s)	Storage class (TRGS 510) : 3: Flammable liquids Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls / Personal protection

Control parameters	Occupational Exposure Limits
Exposure controls	
Appropriate engineering controls	No data available.
Personal protective equipment:	
Eye / face protection	Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin protection	Flame retardant antistatic protective clothing.
Body Protection	Flame retardant antistatic protective clothing.
Respiratory protection	required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter type: Filter type AX The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.
Control of environmental exposure	Do not let product enter drains.

SECTION 9: Physical and chemical properties

Appearance	Form: Liquid Colour: Colourless
Odour	characteristic
pH - Value	No data available
Density	0,79 g/cm ³ (20 °C)
Boiling Point	64.7 °C (1.013 hPa)
Melting Point	-98 °C
Solubility in water	1.000 g/l (20 °C) completely miscible
Flash point	9.7 °C
Vapour pressure	169.27 hPa (25 °C)
Auto -ignition temperature	420 °C (1.013 hPa)
Vapour density	1.11
Flammability (solid, gas)	No data available
Evaporation rate	6.3 - Diethyl ether 1.9 - n-butyl acetate
Partition coefficient: n- octanol / water	Log Pow: -0.77 - (Lit.), Bioaccumulation is not expected.
Viscosity	Viscosity, kinematic: 0.54 – 0.59 mm ² /s at 20 °C Viscosity, dynamic: > 0.544 - < 0.59 mPa.s (25 °C)
Explosive properties	No data available
Upper / lower flammability or explosive limits	Upper explosion limit: 44 %(V) Lower explosion limit: 5.5 %(V)
Oxidizing properties	No data available

Other safety information:

Burning rate: No data available
Self-ignition: 455.0 °C 1.013 hPa
Conductivity: < 1 µS/cm
Minimum ignition energy: 0.14 mJ
Molecular weight: 32.04 g/mol

SECTION 10: Stability and reactivity

Reactivity

Vapours may form explosive mixture with air.

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

Risk of explosion with:

Oxidizing agents

per chloric acid

perchlorates

salts of oxyhalogenic acids

chromium(VI) oxide

halogen oxides

nitrogen oxides

non-metallic oxides

chromosulfuric acid

chlorates

hydrides

zinc diethyl

halogens

powdered magnesium

hydrogen peroxide

Nitric acid

sulphuric 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

Warming.

Condition to avoid

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

Acute toxicity	Acute toxicity estimate Oral – 100.1 mg/kg (Expert judgment) Remarks: Classified according to Regulation (EU) 1272/2008 Symptoms: Nausea, Vomiting Acute toxicity estimate Inhalation - 4 h – 3.1 mg/l (Expert judgment) Remarks: Classified according to Regulation (EU) 1272/2008 Symptoms: Irritation symptoms in the respiratory tract.
Skin corrosion/irritation	Acute toxicity estimate Dermal – 300.1 mg/kg (Expert judgment) Remarks: Classified according to Regulation (EU) 1272/2008 Skin - Rabbit Result: No skin irritation Remarks: (ECHA) Drying-out effect resulting in rough and chapped skin.
Serious eye damage/eye irritation	Eyes - Rabbit Result: No eye irritation Remarks: (ECHA)
Respiratory or skin sensitization	Sensitisation test: - Guinea pig Result: negative (OECD Test Guideline 406) 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
Germ cell mutagenicity	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
Additional Information	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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.

SECTION 12: Ecological information

Toxicity

Toxicity to fish	flow-through test LC50 - <i>Lepomis macrochirus</i> (Bluegill) – 15.400.0 mg/l - 96 h (US-EPA)
Toxicity to daphnia and other aquatic invertebrates	semi-static test EC50 - <i>Daphnia magna</i> (Water flea) - 18.260 mg/l - 96 h (OECD Test Guideline 202)
Toxicity to algae	Static test ErC50 - <i>Pseudokirchneriella subcapitata</i> (green algae) - ca. 22.000,0 mg/l - 96 h (OECD Test Guideline 201)
Toxicity to bacteria	static test IC50 - activated sludge - > 1.000 mg/l - 3 h (OECD Test Guideline 209)

Persistence and degradability

Biodegradability

Result: 99 % - Readily biodegradable.
(OECD Test Guideline 301D)

Biochemical Oxygen Demand (BOD)

600 - 1.120 mg/g
Remarks: (IUCLID)

Chemical Oxygen Demand (COD)

1.420 mg/g
Remarks: (IUCLID)

Theoretical oxygen demand

1.500 mg/g
Remarks: (Lit.)

Ratio BOD/ThBOD

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

Bio accumulative potential

No data available

Bioaccumulation

Cyprinus carpio (Carp) - 72 d
at 20 °C - 5 mg/l(Methanol) Bio concentration factor (BCF): 1.0

Mobility in soil

Will not adsorb on soil.

Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at Levels of 0.1% or higher.

Other adverse effects

Additional ecological information

Avoid release to the environment.

SECTION 13: Disposal considerations

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

SECTION 14: Transport information

	UN no.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
ADR / RID	1230	METHANOL	3 (6.1)	II	No
IMDG	1230	METHANOL	3 (6.1)	II	No
IATA	1230	Methanol	3 (6.1)	II	No

SECTION 15: Regulatory information

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	Conditions of restriction for the following entries should be considered: Number on list 3 Number on list 40 Number on list 75: If you intend to use this product as tattoo ink, please contact your vendor. Banned and/or restricted Not applicable
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	Not applicable
Regulation (EU) No 2024/590 on substances that deplete the ozone layer	Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	Not applicable
REACH - List of substances subject to authorisation (Annex XIV)	Not applicable
Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	H2 ACUTE TOXIC P5c FLAMMABLE LIQUIDS 22 Methanol

Other regulations:

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

The information in this SDS is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. The user must be determined suitability of this information for his application.