

Material Safety Data Sheets (MSDS)

Methanol

Identification of Product

Chemical Code: HPLC-M1

Chemical Name: Methanol

Chemical Grade: HPLC

Chemical Formula: CH₄O

Chemical Weight: 32,04 g/mol

CAS No: 67-56-1

Chemical Synonyms: Methanol HPLC

Hazards Identification

REACH No: 01-2119433307-44-XXXX

Signal Word: Danger

Supplemental Hazard Information:

Additional Hazard Information: No Data Available



Hazards statements

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.

Precautionary statements

P210 - Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P260 - Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280 - Wear protective gloves/ protective clothing.
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P311 - Call a POISON CENTER or doctor/ physician.

Composition of Chemical

Chemical Formula: CH₄O

EC No 1272/2008: 01-2119433307-44-XXXX

First Aid Measures

General Advice: Consult a physician. Show this safety data sheet to the doctor in attendance.

If: Inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

If: Skin Contact: Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

If: Eye Contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If: Swallowed: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Important Symptoms: Dizziness, Drowsiness, Metabolic acidosis, Blurred vision, Seizures, Coma, Blindness, Death.

Immediate Medical Attention: No Data Available

Firefighting Measures

Extinguishing Media: Use Water spray, Alcohol-resistant foam, Dry chemical or Carbon Dioxide.

Hazards Arising: Carbon Oxides.

Advice for Firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

Info for Firefighting: Use water spray to cool unopened containers.

Accidental Release Measures

Personal Precautions: Wear respiratory protection.

Avoid breathing vapours, mist or gas.
Ensure adequate ventilation.
Remove all sources of ignition.
Evacuate personnel to safe areas.
Beware of vapours accumulating to form explosive concentrations.
Vapours can accumulate in low areas.

Environmental Precautions: Prevent further leakage or spillage if safe to do so.
Do not let product enter drains.

Method for Containment: Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

Handling and Storage

Personal Precautions: Avoid contact with skin and eyes.
Avoid inhalation of vapour or mist.
Keep away from sources of ignition - No smoking.
Take measures to prevent the build up of electrostatic charge.

Environmental Precautions: Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Keep in a cool place.

Exposure Controls | Personal Protection

Derived No Effect Level (DNEL)

Workers | Application Area | Exposure Routes | Health Effect | Value

Workers - Skin contact - Long-term systemic effects - 40mg/kg BW/d.
Workers - Skin contact - Acute systemic effects - 40mg/kg BW/d.
Workers - Inhalation - Acute systemic effects - 260 mg/m³.
Workers - Inhalation - Acute local effects - 260 mg/m³.
Workers - Inhalation - Long-term systemic effects - 260 mg/m³.
Workers - Inhalation - Long-term local effects - 260 mg/m³.

Consumers | Application Area | Exposure Routes | Health Effect | Value

Consumers - Skin contact - Long-term systemic effects - 8mg/kg BW/d.
Consumers - Ingestion - Long-term systemic effects - 8mg/kg BW/d.
Consumers - Skin contact - Acute systemic effects - 8mg/kg BW/d.
Consumers - Ingestion - Acute systemic effects - 8mg/kg BW/d.
Consumers - Inhalation - Acute systemic effects 50 mg/m³.
Consumers - Inhalation - Acute local effects 50 mg/m³.
Consumers - Inhalation - Long-term systemic effects - 50 mg/m³.
Consumers - Inhalation - Long-term local effects - 50 mg/m³.

Predicted No Effect Concentration (PNEC)

Soil - 23,5 mg/kg

Marine water - 15,4 mg/l

Fresh water - 154 mg/l

Fresh water sediment - 570,4 mg/kg

Onsite sewage treatment plant - 100 mg/kg

Engineering Controls: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

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: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact -

Material: Butyl-rubber. Minimum layer thickness: 0,3 mm.

Break through time: 480 min. Material tested: Butoject®.

Splash contact -

Material: Nitrile rubber. Minimum layer thickness: 0,4 mm.

Break through time: 31 min. Material tested: Camatril®.

Data source: KCL GmbH, D-36124. Test method: EN374.

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection: Complete suit protecting against chemicals. Flame retardant anti-static protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory Protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Physical and Chemical Properties

Appearance: Clear, Colourless, mobile liquid

Odour: Pungent

Odour Threshold: No Data Available

pH: No Data Available

Melting Point: Melting Point/Range: -98 °C

Boiling Point: 64,7 °C

Flash Point: 9,7 °C (Closed Cup).

Evaporation: No Data Available

Flammability: No Data Available

Upper/Lower Flammability or Explosive Limits: Upper explosion limit: 36 %(V),
Lower explosion limit: 6 %(V).

Vapour pressure: 130,3 hPa at 20,0 °C,
546,6 hPa at 50,0 °C,
169,27 hPa at 25,0 °C.

Vapour density: 1,11

Relative density: 0,791 g/mL at 25 °C

Water solubility: Completely Miscible

Partition Coefficient: Log Pow: -0,77

Auto-ignition Temperature: 455,0 °C at 1.013 hPa

Decomposition Temperature: No Data Available

Viscosity: No Data Available

Explosive properties: No Data Available

Oxidizing properties: The substance or mixture is not classified as oxidizing.

Other Safety Info: Minimum ignition energy: 0,14 mJ.

Conductivity: < 1 ?S/cm,

Relative vapour density: 1,11.

Stability and Reactivity

Reactivity: No Data Available

Chemical Stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: No Data Available

Conditions to Avoid: Heat, flames and sparks, Extremes of temperature and direct sunlight.

Incompatible Materials: Acid Chlorides, Acid Anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids.

Hazardous Decomposition Products: No Data Available

Toxicological Information

Acute Toxicity: LDLO Oral - Human - 143 mg/kg

Remarks: Lungs, Thorax, or Respiration: Dyspnea. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

LD50 Oral - Rat - 1.187 - 2.769 mg/kg

LC50 Inhalation - Rat - 4 h - 128,2 mg/l

LC50 Inhalation - Rat - 6 h - 87,6 mg/l

LD50 Dermal - Rabbit - 17.100 mg/kg

Skin Corrosion/Irritation: Rabbit

Result: No skin irritation

Serious Eye damage | Eye Irritation: Rabbit

Result: No eye irritation

Cell Mutagenicity: Ames test - *S. typhimurium* - Result: negative.

In vitro assay - Fibroblast - Result: negative - Mutation in mammalian somatic cells.

Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis) - Mouse - male and female - Result: negative

Carcinogenicity: IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity: Damage to fetus not classifiable

Fertility classification not possible from current data.

Specific Target Organ Toxicity - Single Exposure: Causes damage to organs.

Specific Target Organ Toxicity - Repeated Exposure: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration Hazard: No aspiration toxicity classification.

Ecological Information

Ecological Toxicity: Toxicity to fish:

Mortality LC50 - *Lepomis macrochirus* (Bluegill) - 15.400,0 mg/l - 96 h

NOEC - *Oryzias latipes* - 7.900 mg/l - 200 h.

Toxicity to daphnia and other aquatic invertebrates:

EC50 - *Daphnia magna* (Water flea) - > 10.000,00 mg/l - 48 h.

Toxicity to algae:

Growth inhibition EC50 - *Scenedesmus capricornutum* (fresh water algae) - 22.000,0 mg/l - 96 h.

Ecological Persistence and degradability: Biodegradability:

Aerobic - Exposure time 5 d - Result: 72 % - rapidly biodegradable.

Biochemical Oxygen Demand - (BOD) - 600 - 1.120 mg/g.

Chemical Oxygen Demand - (COD) - 1.420 mg/g.

Theoretical Oxygen Demand - 1.500 mg/g

Bioaccumulative Potential: Bio-accumulation: *Cyprinus carpio* (Carp) - 72 d at 20 °C - 5 mg/l.

Bio-concentration factor (BCF): 1,0

Mobility in Soil: Will not adsorb on soil.

Results of PBT and vPvB Assessment: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

Other Adverse Effect: Avoid release to the environment.

Stability in water - at 19 °C83 - 91 % - 72 h. Remarks: Hydrolyses on contact with water. Hydrolyses readily.

Disposal Considerations

Waste Treatment Methods: Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging - Dispose of as unused product.

Transport Information

UN Number: ADR/RID: 1230

IMDG: 1230

IATA: 1230

UN Shipping Hazard: ADR/RID: METHANOL

IMDG: METHANOL

IATA: Methanol

Transport Hazard Class: ADR/RID: 3 (6.1)

IMDG: 3 (6.1)

IATA: 3 (6.1)

Packaging Group: ADR/RID: II

IMDG: II

IATA: II

Environmental Hazards: ADR/RID: no

IMDG Marine pollutant: no

IATA: no

Special Precautions: No Data Available

Regulatory Information

Safety, Health and environmental regulations: This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

International Chemical Weapons Convention (CWC) Schedules of Toxic Chemicals and Precursors: Neither banned nor restricted.

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and

articles (Annex XVII):

Neither banned nor restricted.

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals:

Neither banned nor restricted.

REACH - Candidate List of Substances of Very High Concern for Authorization (Article 59): This product does not contain substances of very high concern

(Regulation (EC) No. 1907/2006 (REACH), Article 57). REACH - List of substances subject to authorization (Annex XIV): Neither banned nor restricted.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: Neither banned nor restricted.

Regulation (EC) No 850/2004 on persistent organic pollutants: Neither banned nor restricted.

Chemical Safety Assessment: A Chemical Safety Assessment has been carried out for this substance.

Additional Info: RTECS: PC1400000.

Effects due to ingestion may include: Headache, Dizziness, Drowsiness, Metabolic acidosis, Coma, Seizures.

Methyl alcohol may be fatal or cause blindness if swallowed.

Disclaimer

The information stated above is considered to be correct, but does not claim to be inclusive and shall only be used as a guideline. The information provided by this document is confirmed by our continuous updating of knowledge and adheres to the products appropriate safety precautions. It does not represent any guarantee of the product's properties. RLS Chemicals and its Associates shall not be held accountable for any damage's consequent of handling the above product.
