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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product	Methanol	**Revision date**	2026-11-16
Version	1.0	**Brand**	Richest

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

Product name	Methanol
Synonyms	Methyl alcohol
CAS No.	67-56-1
EC No.	200-659-6
Molecular formula	CH4O
Molecular weight	32.042 g/mol
Relevant identified uses	Laboratory and analytical solvent for extraction, chromatography and sample preparation; industrial solvent and chemical intermediate.
Uses advised against	Never use as a substitute for ethanol or in anything that could be drunk. For industrial, professional and laboratory use only.
Company	Richest Group
Address	No. 999, Jiangyue Rd, Minhang, Shanghai 201114, China
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Website	www.richest-group.com
Emergency telephone number	0086 21 5017 5386

SECTION 2: Hazards identification

GHS Classification	Flammable liquids Category 2; Acute toxicity oral/dermal/inhalation Category 3; STOT single exposure Category 1 (EU CLP)
Pictogram(s)	GHS02; GHS06; GHS08 (verify final artwork against selected CLP entry)
Signal word	Danger
Hazard statement(s)	H225 Highly flammable liquid and vapor.; H301 Toxic if swallowed.; H311 Toxic in contact with skin.; H331 Toxic if inhaled.; H370 Causes damage to organs.
Precautionary statement(s)	P201; P202; P210; P233; P240; P260; P264; P270; P271; P280; P301+P310; P303+P361+P353; P307+P311; P311; P370+P378; P403+P233; P403+P235; P405; P501
Other hazards	Methanol is released to the environment during industrial uses and naturally from volcanic gases, vegetation, and microbes. Exposure may occur from ambient air and during the use of solvents. Acute (short-term) or chronic (long-term) exposure of humans to methanol by inhalation or ingestion may result in blurred vision, headache, dizziness, and nausea.

SECTION 3: Composition/information on ingredients

Component	Methanol
CAS No.	67-56-1
EC No.	200-659-6

SECTION 3: Composition/information on ingredients

Classification	Flammable liquids Category 2; Acute toxicity oral/dermal/inhalation Category 3; STOT single exposure Category 1 (EU CLP)
Concentration	No assay specification stated in COA; do not claim 99.9%

SECTION 4: First-aid measures

If inhaled	IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital. Provide proper respiratory protection to rescuers entering an unknown atmosphere.
In case of skin contact	Water flush promptly - If this chemical contacts the skin, flush the contaminated skin with water promptly. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water promptly. If irritation persists after washing, get medical attention.
In case of eye contact	First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.
If swallowed	DO NOT INDUCE VOMITING. Volatile chemicals have a high risk of being aspirated into the victim's lungs during vomiting which increases the medical problems. If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. IMMEDIATELY transport the victim to a hospital.
Most important symptoms and effects	Nausea, vomiting, abdominal pain, dizziness, drowsiness, metabolic acidosis, blurred vision, respiratory irritation; severe exposure may cause seizures, coma, blindness or death. Symptoms may be delayed.
Indication of immediate medical attention	Treat symptomatically. Show this safety data sheet to medical personnel.

SECTION 5: Fire-fighting measures

Suitable extinguishing media	Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	Do not use a solid water stream; it may scatter and spread the fire (Alliance Chemical SDS).
Special hazards arising from the chemical	Behavior in Fire: Containers may explode. (USCG, 1999)
Advice for firefighters	Excerpt from ERG Guide 131 [Flammable Liquids - Toxic]:

SECTION 6: Accidental release measures

Personal precautions and emergency procedures	Avoid contact with the material. Ensure adequate ventilation. Wear appropriate personal protective equipment.
Environmental precautions	Prevent uncontrolled release to drains, soil and watercourses.
Methods for containment and cleaning up	Evacuate danger area! Consult an expert! Remove all ignition sources. Ventilation. Personal protection: complete protective clothing including self-contained breathing apparatus. Do NOT wash away into sewer. Collect leaking and spilled liquid in covered containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Wash away remainder with plenty of water.

SECTION 7: Handling and storage

Precautions for safe handling	Avoid contact with skin and eyes. Avoid formation or inhalation of dust, mist or vapour as applicable. Wash thoroughly after handling.
Conditions for safe storage, including incompatibilities	Keep containers tightly closed in a cool, dry, well-ventilated flammables area away from heat, sparks, open flame and direct sunlight. Store locked up; ground and bond containers when transferring.

SECTION 8: Exposure controls/personal protection

Occupational exposure limit values	260 mg/m³; 130 mg/m³
Biological limit values	No biological limit values were identified in the reviewed sources.
Appropriate engineering controls	Provide adequate ventilation. Eyewash facilities should be available where contact is possible.
Eye/face protection	Approved canister mask for high vapor concentrations; safety goggles; rubber gloves. (USCG, 1999)
Skin and body protection	Approved canister mask for high vapor concentrations; safety goggles; rubber gloves. (USCG, 1999)
Respiratory protection	Use suitable respiratory protection if exposure limits may be exceeded or dust, mist or vapour is generated.
Thermal hazards	No specific thermal hazards were identified in the reviewed sources; see Sections 5 and 10.

SECTION 9: Physical and chemical properties

Physical state	Colorless clear liquid without suspended solids
Colour	Colorless liquid
Odour	Slight alcoholic odor when pure; repulsive, pungent odor when crude
Melting point / freezing point	-97.8 °C
Boiling point / boiling range	64.7 °C at 760 mm Hg
Flammability	Behavior in Fire: Containers may explode. (USCG, 1999)
Explosion / flammability limits	LEL: 6 % (NTP, 1992); UEL: 36.5 % (NTP, 1992)
Flash point	15.6 °C (open cup) /from table/
Auto-ignition temperature	440 °C
Decomposition temperature	Distillable without decomposition at normal pressure (ChemicalBook SDS).
pH	No data available
Viscosity	0.544 mPa.s at 25 °C
Solubility	Miscible with water at 25 °C; Miscible with water at 20 °C
Partition coefficient n-octanol/water	log Kow = -0.77
Vapour pressure	VP: 92 mm Hg at 20 °C
Density and/or relative density	0.791–0.792 (unit/test temperature not stated in COA)
Relative vapour density	1.11 (NTP, 1992) - Heavier than air; will sink (Relative to Air)
Particle characteristics	Not applicable (liquid).
Refractive index	Index of refraction: 1.3292 at 20 °C/D

SECTION 10: Stability and reactivity

Reactivity	Highly flammable. Soluble in water in all proportions.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	METHANOL reacts violently with acetyl bromide [Merck 11th ed. 1989]. Mixtures with concentrated sulfuric acid and concentrated hydrogen peroxide can cause explosions.
Conditions to avoid	NO open flames, NO sparks and NO smoking. NO contact with incompatible substances. Closed system, ventilation, explosion-proof electrical equipment and lighting.
Incompatible materials	Incompatible materials: Acid chlorides, acid anhydrides, oxidizing agents, alkali metals, reducing agents, acids.; Distillation of mixtures with C1-C3 alcohols gives highly explosive alkyl perchlorates. /Barium perchlorate/
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions: Carbon oxides

SECTION 11: Toxicological information

Acute toxicity	LD50 Rat oral 5628 mg/kg; LD50 Rabbit oral 14.4 g/kg; LD50 Monkey oral 2-3 g/kg; LD50 Mouse oral 7300 mg/kg
Toxicological summary	IDENTIFICATION AND USE: Methanol is a clear colorless liquid, used in hydraulic fracturing mixtures. It is also used as dehydrator of natural gas; fuel for utility plants (methyl fuel); feedstock for manufacture of synthetic proteins by continuous fermentation; source of hydrogen for fuel cells, home-heating-oil extender. HUMAN STUDIES: Humans (and non-human primates) are uniquely sensitive to methanol poisoning. Nearly all of the available information on methanol toxicity in humans relates to the consequences of acute rather than chronic exposures.
Health effects	Excerpt from ERG Guide 132 [Flammable Liquids - Corrosive]:

SECTION 12: Ecological information

Ecotoxicity	EC50; Species: Chlorella fusca ssp. vacuolata (Green Algae) strain 21115; Conditions: freshwater, static, 28 °C, pH 6.9; Concentration: 0.77 umol/L for 24 hr; Effect: decreased population growth rate /100% purity/; EC50; Species: Chlorella pyrenoidosa (Green Algae) 65000-78000 cells/mL; Conditions: static, 25 °C; Concentration: 3.6 umol/L for 24 hr (95% confidence interval: 3.46-3.74 ug/L; Effect: general growth
Persistence degradability	AEROBIC: The half-life for methanol applied to a sandy loam from Mississippi (68% sand, 23.4% silt, 8.6% clay, 0.94% organic carbon, pH 4.8) was 3.2 days. The half-life of methanol applied to a sandy silt loam from Texas (61.5% sand, 31.1% silt, 7.4% clay, 3.28% organic carbon, pH 7.8) was 1 day.
Bioaccumulative potential	Measured BCF values of less than 10 were reported for fish (golden ide (Leuciscus idus melanotus)) exposed to 0.05 mg/L of methanol for three days in an aquatic tank(1). According to a classification scheme(2), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).
Mobility in soil	The measured Koc for methanol is reported to be 2.75(1). According to a classification scheme(2), this estimated Koc value suggests that methanol is expected to have very high mobility in soil(SRC).
Other adverse effects	The rate constant for the vapor-phase reaction of methanol with photochemically-produced hydroxyl radicals is 9.0X10-13 cu cm/molecule-sec at 25 °C(1). This corresponds to an atmospheric half-life of about 17 days at an atmospheric concentration of 5X10+5 hydroxyl radicals per cu cm(1).

SECTION 12: Ecological information

Environmental fate	ATMOSPHERIC FATE: According to a model of gas/particle partitioning of semivolatile organic compounds in the atmosphere(1), methanol, which has a vapor pressure of 127 mm Hg at 25 °C(2), is expected to exist solely as a vapor in the ambient atmosphere.

SECTION 13: Disposal considerations

Product disposal methods	Generators of waste (equal to or greater than 100 kg/mo) containing this contaminant, EPA hazardous waste number U154 and F003, must conform with USEPA regulations in storage, transportation, treatment and disposal of waste.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal in accordance with local regulations.

SECTION 14: Transport information

UN Number (ADR/RID, IMDG, IATA)	1230
UN Proper Shipping Name	METHANOL
Transport hazard class(es)	3 (6.1)
Packing group	II
Environmental hazards / Marine pollutant	Not identified as a marine pollutant in the reviewed sources; prevent uncontrolled release to water.
Special precautions for user	UN 1230 methanol, Class 3 (6.1), PG II. Keep containers closed, secured and away from ignition sources; verify current modal regulations before shipment.

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product	Arab Republic of Egypt TWA 200 ppm (260 mg/cu m), skin

SECTION 16: Other information

Full text of H-Statements	H225 Highly flammable liquid and vapor.; H301 Toxic if swallowed.; H311 Toxic in contact with skin.; H331 Toxic if inhaled.; H370 Causes damage to organs.
Revision date	2026-11-16
Version	1.0
References	Supplier technical documents, public SDS/COA/TDS and regulatory sources reviewed. Public data citations are listed below. Public data sources: PubChem Methanol (CID 887): https://pubchem.ncbi.nlm.nih.gov/compound/887 | Methanol Safety Data Sheet, CAS 67-56-1: https://www.chemicalbook.com/msds/methanol.htm | Methanol ACS Reagent Grade Safety Data Sheet: https://docs.alliancechemical.com/sds/methanol-acs-reagent-grade
Abbreviations	CAS: Chemical Abstracts Service; ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road; IMDG: International Maritime Dangerous Goods; IATA: International Air Transport Association; SDS: Safety Data Sheet.
Disclaimer	The information in this SDS applies to the specified product and is provided in good faith based on information available to Richest Group at the date of issue. It describes health, safety and environmental requirements and does not constitute a guarantee of product properties. Users must assess suitability and comply with applicable regulations.