

Methanol

Safety data sheet in the 16-section GHS format · CAS 67-56-1

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1. Identification of the substance and of the supplier

Product name	Methanol
Synonyms	methyl alcohol, MeOH, CH ₃ OH, wood alcohol, methanol solvent
C.A.S. number	67-56-1
Molecular formula	CH ₃ OH (CH ₄ O)
Grade supplied	99.85% min
Product group	Solvents & Organic Chemicals
Identified uses	Formaldehyde, Biodiesel, Solvent, Chemical intermediate, Fuel blending, Antifreeze & gas drying
Supplier	Velora Chemicals Private Limited
Emergency contact	Medical, fire or spill emergency — call the emergency services first: 112 (all-India), 101 fire, 108 ambulance. Velora Chemicals Private Limited does not at present operate a 24-hour chemical emergency advice line, and this sheet does not pretend otherwise. Every consignment despatched by road carries an emergency information panel under rule 134 of the Central Motor Vehicles Rules 1989 bearing a number from which expert advice on this material can be obtained, and the producer's safety data sheet issued with the consignment carries the producer's own 24-hour number where one is operated. For product, grade and documentation queries in business hours: +91 99255 22674.

2. Hazards identification

GHS signal word	Danger
Hazard classification	EU HARMONISED classification, Annex VI to CLP (index 603-001-00-X), confirmed against the ECHA C&L Inventory where every endpoint below has over 99 % notifier agreement across 7623 reports: Flam. Liq. 2 - H225 (highly flammable liquid and vapour); Acute Tox. 3 oral - H301 (toxic if swallowed); Acute Tox. 3 dermal - H311 (toxic in contact with skin); Acute Tox. 3 inhalation - H331 (toxic if inhaled); STOT SE 1 - H370 (causes damage to organs - central nervous system and optic nerve). Signal word Danger; pictograms GHS02, GHS06 and GHS08. All three acute toxicity routes - oral, dermal AND inhalation - are Category 3 and must all appear. In addition, SUPPLIER SELF-CLASSIFICATION on the Methanex SDS adds Eye Irrit. 2A - H319 and Repr. 1B - H360; neither is part of the current Annex VI harmonised entry (the Wikipedia infobox summary of the EU classification likewise does not include H360). Report the five harmonised statements as the legal classification and disclose H319 and H360 as producer self-classification if you choose to carry them.

3. Composition / information on ingredients

Substance	Methanol
C.A.S. number	67-56-1
Molecular weight	32.04 g/mol

Composition	99.85% min
4. First-aid measures	
Eye contact	Rinse immediately with plenty of water for at least 15 minutes, holding the eyelids apart. Remove contact lenses if easily possible, then continue rinsing. Refer for medical attention.
Skin contact	Remove all contaminated clothing immediately - it is itself a fire hazard - and wash the affected skin with soap and plenty of water. Refer for medical attention. Important: methanol is absorbed through intact skin in systemically TOXIC amounts (Acute Tox. 3 dermal, H311), so skin contact over any significant area is a poisoning exposure and not merely a skin complaint; monitor for the systemic effects described under ingestion.
Inhalation	Remove the person to fresh air and keep at rest in a position comfortable for breathing, half-upright if breathing is difficult. Give oxygen if available and trained to do so. If breathing has stopped, give artificial respiration. Refer for medical attention - inhalation exposure can also produce the delayed systemic poisoning described under ingestion.
Ingestion	TREAT AS A MEDICAL EMERGENCY - call a poison centre or doctor immediately and arrange hospital transfer even if the person appears well. Rinse the mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Do not wait for symptoms: a latent period of several hours may pass between exposure and the onset of symptoms (Methanex SDS), during which the person can appear entirely normal while methanol is metabolised to formic acid. The effects that follow - metabolic acidosis, blurred vision, blindness, central nervous system depression, coma and death - are frequently irreversible once established, and as little as a swallow can cause permanent blindness. Specific antidotal therapy and haemodialysis may be required; those decisions are for a physician or poison centre, so transfer to hospital promptly and tell the receiving clinician that the exposure was to methanol. Do not treat a well-appearing patient as unexposed.

5. Fire-fighting measures

Flash point	11 C closed cup (Methanex SDS; NIOSH Pocket Guide gives 52 F = 11 C). Literature range 11-12 C. ILO ICSC 0057 gives the slightly lower figure of 9 C closed cup. Publish 11 C closed cup and note the 9-12 C spread. Autoignition temperature 464 C (Methanex); explosive limits approximately 6-36 % v/v in air.
Suitable extinguishing media	This material has a flash point and burns. Use alcohol-resistant foam, dry chemical powder or carbon dioxide; water spray or fog to cool surrounding surfaces and containers. Confirm the medium against the producer's safety data sheet for the grade supplied.
Unsuitable extinguishing media	Do not use a high-pressure water jet: it will spread the material and the fire. A vapour flash-back to the source and re-ignition of cooled but still-hot material are both foreseeable; do not approach a container that may be pressurised or a pool fire without cover.
Special hazards arising from the substance	Hazardous gases and decomposition products may be formed in a fire, from this substance or from its packaging and the materials stored with it. Packaging and pallets are themselves a substantial fire load.
Advice for fire-fighters	Fire-fighters must wear self-contained breathing apparatus and full protective clothing. Keep unnecessary personnel away and upwind. Prevent firefighting run-off from entering drains, surface water or groundwater.

6. Accidental release measures

Keep unnecessary personnel away and upwind, and ventilate. Wear the protective equipment in section 8 before approaching. Stop the leak if it is safe to do so, then bund or dike the spill and prevent entry to drains, surface water and groundwater. Absorb with an inert absorbent and collect into labelled, closable containers for disposal under section 13. Do not return spilled material to the original container.

7. Handling and storage

- Methanol is toxic by swallowing, by skin absorption and by breathing the vapour (GHS Acute Tox. 3 by all three routes, and STOT SE 1 — it causes damage to organs). Skin contact is a real exposure route, not a minor one. Nitrile gloves, chemical goggles, and vapour control wherever it is decanted or transferred.
- Suspected methanol ingestion is a medical emergency even when the person appears fine. The toxic metabolites take hours to build, and by the time vision is affected the injury may be permanent. Do not induce vomiting. Get the person to hospital immediately and tell the clinicians it is methanol — there are specific antidotes, and treatment is time-critical.
- For skin contact, remove contaminated clothing and wash the area with soap and running water for at least 15 minutes. For eye contact, rinse with running water for at least 15 minutes, holding the eyelids open. Seek medical attention after either, and after any significant vapour exposure.
- It is a highly flammable liquid, UN 1230, Class 3 with a subsidiary 6.1 toxic risk, packing group II. The flash point is around 11 °C, so it gives off an ignitable vapour at ordinary Indian ambient temperatures — every day of the year. Bond and earth all transfer equipment, use non-sparking tools, and keep ignition sources out of the transfer area.
- The flame burns with almost no visible colour in daylight. A methanol fire can be burning in front of you and not be seen; train the people who handle it on that, and use alcohol-resistant foam rather than ordinary AFFF, which the alcohol breaks down.
- It mixes with water in all proportions, so a spill spreads and dilutes rather than sitting still — contain it before it reaches a drain. Store in a cool, well-ventilated, bunded area away from oxidisers and acids.
- Methanol in Gujarat is licensed under the Gujarat Methyl Alcohol Rules, 1981, made under section 143(1) of the Bombay Prohibition Act, 1949: import, possession and sale run on M.A. class licences, and a licensed dealer may sell only to a holder of a valid M.A. licence. Methanol is not listed in the schedule to the Gujarat Poisons (Regulation and Control of Sale and Use of Acid) Rules, 2014, and the Gujarat High Court has held that the Poisons Act and the Methyl Alcohol Rules operate in different spheres. The position is moving — in September 2026 the Supreme Court struck down Maharashtra's methanol colourant, bitterant and blanket licensing rules as disproportionate — so we confirm the current licence position at both ends before quoting rather than working from what was true last year.
- That licence requirement binds the seller as much as the buyer. Velora holds the M.A. licence required to supply methanol, and our licence particulars are provided with the quotation. We quote only where the position can be documented at both ends, against an end-use declaration from an identified buyer. We do not quote undocumented buyers, we do not supply into any beverage or potable channel, and we will decline an order rather than let this material reach a supply chain we cannot see the end of.

Storage: Store in a fireproof, cool, well-ventilated location away from all sources of ignition, heat, sparks, open flame and direct sunlight. No smoking. Keep the container tightly closed and store only in the original container; keep locked up. Bond and earth containers and transfer equipment, and use non-sparking tools and explosion-proof electrical equipment - methanol vapour is heavier than air, travels along the ground and can reach a distant ignition source. Store separated from oxidising agents, strong acids, strong bases and water-reactive materials. Do not use aluminium, zinc, magnesium or galvanised vessels, lines or fittings. Provide bunding and spill containment; keep away from drains. Fight fires with alcohol-resistant (AR-AFFF) foam, dry chemical, carbon dioxide or water spray - ordinary hydrocarbon foam is destroyed by methanol.

8. Exposure controls / personal protection

Engineering controls. Enclose every transfer, tipping, bag-slitting and sampling point and fit local exhaust extraction at each, and keep airborne concentrations below the limit in force at the place of use. Provide an eyewash within reach of the working position, and a safety shower wherever the material is classified corrosive or irritant or is handled in quantity. Do not eat, drink or smoke in the handling area; wash before breaks. Where no limit is stated above, occupational exposure limits vary by jurisdiction: check the limit in force at the place of use and the producer's sheet for the grade supplied, and record which value your assessment adopted. Select eye, skin and respiratory protection on the strength of a measured or modelled exposure assessment, not on this sheet alone.

9. Physical and chemical properties

Appearance Clear, colourless, mobile, volatile liquid with a characteristic alcoholic and faintly pungent odour. Burns with a pale blue, almost invisible flame. Odour gives no reliable warning of hazardous concentrations (reported odour threshold spans 4.2-5960 ppm).

Physical state Liquid

Melting / freezing point	-97.8 C (Methanex SDS; freezing point -97.6 C). ILO ICSC 0057 gives -98 C; NIOSH gives -144 F (= -97.8 C).
Boiling point	64.7 C at 101.3 kPa (Methanex SDS). ILO ICSC 0057 gives 65 C; NIOSH gives 147 F (= 63.9 C).
Relative density	0.791-0.793 at 20 C (Methanex SDS); 0.792 g/cm ³ (literature); specific gravity 0.79 (NIOSH, ICSC 0057)
Solubility in water	Miscible with water in all proportions. Also miscible with ethanol, ether and most organic solvents.
pH	Not applicable - methanol is a neutral, essentially non-ionising organic liquid and not an aqueous electrolyte (stated as 'not applicable' in the Methanex SDS). Its pKa is about 15.5, i.e. it is a weaker acid than water.
Flash point	11 C closed cup (Methanex SDS; NIOSH Pocket Guide gives 52 F = 11 C). Literature range 11-12 C. ILO ICSC 0057 gives the slightly lower figure of 9 C closed cup. Publish 11 C closed cup and note the 9-12 C spread. Autoignition temperature 464 C (Methanex); explosive limits approximately 6-36 % v/v in air.
Auto-ignition / ignition temperature	Not available
Explosive / dust-explosion properties	Not available
Vapour pressure	Not available
Vapour density	Not available
Partition coefficient (log Pow)	Not available
Particle characteristics	Not available
Molecular weight	32.04 g/mol

10. Stability and reactivity

Incompatible materials	Strong oxidising agents, strong acids and strong reducing agents (reacts violently - ICSC 0057). Alkali metals. Attacks lead, aluminium, zinc and magnesium and their alloys (Methanex SDS) - do not use aluminium or galvanised fittings, pumps or drums. Degrades or permeates polyethylene, PVC and nitrile (Methanex SDS), so glove and gasket selection must be checked against a methanol permeation chart rather than assumed. Reacts with chloroform and with sodium hydroxide in strongly exothermic fashion.
Conditions to avoid	Store in a fireproof, cool, well-ventilated location away from all sources of ignition, heat, sparks, open flame and direct sunlight. No smoking. Keep the container tightly closed and store only in the original container; keep locked up. Bond and earth containers and transfer equipment, and use non-sparking tools and explosion-proof electrical equipment - methanol vapour is heavier than air, travels along the ground and can reach a distant ignition source. Store separated from oxidising agents, strong acids, strong bases and water-reactive materials. Do not use aluminium, zinc, magnesium or galvanised vessels, lines or fittings. Provide bunding and spill containment; keep away from drains. Fight fires with alcohol-resistant (AR-AFFF) foam, dry chemical, carbon dioxide or water spray - ordinary hydrocarbon foam is destroyed by methanol.

11. Toxicological information

The health hazards classified for this substance are listed in section 2, and the corresponding first-aid measures in section 4. Numerical toxicological endpoints are not reproduced here: refer to the producer's safety data sheet for the grade supplied,

and to the ECHA and PubChem entries for the substance.

12. Ecological information

Where section 2 or section 14 classifies this substance as hazardous to the aquatic environment, prevent any release to drains, surface water or groundwater and treat aqueous effluent before discharge. Otherwise, refer to the producer's sheet.

13. Disposal considerations

Dispose of the substance and its container through an authorised facility under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 where the waste is scheduled under those Rules, and otherwise as non-hazardous industrial waste, in each case under the conditions of the State Pollution Control Board consent in force at the site. Whether a particular waste stream is scheduled depends on the substance and on what it has been mixed with, so classify the waste before consigning it. Do not reuse empty containers for any other purpose.

14. Transport information

UN number	UN 1230
Class	3 (Flammable liquid), with subsidiary hazard 6.1 (Toxic)
Packing group	II
Proper shipping name	METHANOL. Confirmed as UN 1230, Class 3, subsidiary risk 6.1, Packing Group II by the Methanex India SDS and by ILO ICSC 0057. The subsidiary 6.1 toxic hazard is mandatory and must appear on both the placard/label set and the transport document - a Class 3 declaration without the 6.1 subsidiary risk is a common and serious error.

15. Regulatory information

Supply in India is subject to the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 where the substance is scheduled, and to any product-specific licensing named on the product page. Classification and labelling follow the GHS as adopted in the jurisdiction of use.

Note: Methanol is the most dangerous product on this list relative to how casually it is handled, and two points must reach the reader intact. First, the ingestion first aid: do NOT induce vomiting, and treat ingestion as a medical emergency with a delayed onset - the several-hour symptom-free latent period is exactly what causes people to delay treatment until blindness or death is unavoidable. Second, the toxicity is by all three routes at Category 3, including dermal, so skin exposure is a poisoning route and a nitrile glove is not adequate protection. Beyond that: the flash point of 11 C means methanol is above its flash point at ordinary Indian ambient temperatures all year round in most of the country, so it is producing an ignitable vapour-air mixture in any open or vented vessel at all times - this deserves explicit statement rather than a bare number. The near-invisible pale blue flame makes methanol fires easy to miss in daylight. The mandatory subsidiary risk 6.1 alongside Class 3 is often omitted in error. Methanol is not ionic, so 'pH' is not applicable and should be stated as such rather than given a value. Methanex additionally self-classifies Repr. 1B (H360) and Eye Irrit. 2A (H319), which are not in the current harmonised Annex VI entry; the reproductive-toxicity status of methanol has been the subject of CLP review, so confirm the current Annex VI entry against ECHA before finalising a label rather than relying on this summary. A 99.85 % minimum specification corresponds to standard IMPCA / ASTM D1152 commercial grade; the specification governs purity and does not alter any hazard, classification or transport data above.

16. Other information

Version	1.0
Date of issue	07 October 2026
Supersedes	No previous version
Regulatory basis as at the date of issue	EU CLP Regulation 1272/2008 as amended, including Annex VI harmonised classifications; UN Model Regulations and the IMDG Code Amendment 42-24, mandatory from 1 January 2026; ADR 2025; and, in India, the Manufacture, Storage and Import of Hazardous Chemical Rules 1989 and the Central Motor Vehicles Rules 1989.

How this sheet was compiled and what governs. This sheet was prepared by Velora Chemicals Private Limited as the supplier, from PubChem, the ECHA CLP inventory including Annex VI harmonised classifications, ILO International Chemical Safety Cards and published producer safety data sheets. Values that could not be confirmed from those sources are shown as "Not available" rather than estimated. **The producer's safety data sheet for the specific grade and lot supplied is the governing document** and is issued with the consignment; where the two differ, the producer's sheet prevails. This sheet carries no warranty of the properties of any particular batch. Velora Chemicals Private Limited is a bulk supplier and trader, not a manufacturer.

Sources consulted: https://www.methanex.com/sites/default/files/safety/SDS-2014/Canada-USA/Methanol-India_EN%20April%202020.pdf;
<https://www.inchem.org/documents/icsc/icsc/eics0057.htm>; <https://www.cdc.gov/niosh/npg/npgd0397.html>;
<https://pubchem.ncbi.nlm.nih.gov/compound/887>;
https://pubchem.ncbi.nlm.nih.gov/rest/pug_view/data/compound/887/JSON?heading=GHS%20Classification;
<https://echa.europa.eu/information-on-chemicals/annex-vi-to-clp>