



MATERIALS SAFETY DATA SHEET (MSDS) Methanol (CH₃OH)	MSDS Number:	
	Version number:	
	Date issued:	
	Page No:	

1. Product Identification

Chemical name	Methanol
Other means of identification	Methyl alcohol; Wood spirit; Wood naphtha; Wood alcohol; Pyroligneous spirit; Columbian spirits; Carbinol; Methanol (I); Methyl alcohol (I).
Product use	Synthetic/Analytical chemistry.
CAS Number	67-56-1

Manufacturer/Importer/Supplier/Distributor information

Manufacturer Supplier	
E-Mail	Entity 1 Made by India
Contact Person	
Emergency Telephone	

2. Hazard(s) identification

Classification of the substance:

GHS Classification

Flammable liquids	Category 2
Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 3



Acute toxicity - Inhalation (Vapors)	Category 3
Specific target organ toxicity (single exposure)	Category 1

Hazard pictogram(s)/Symbols	
Signal word	DANGER

Contains Methanol

Hazard 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

Prevention

- Keep container tightly closed. Keep cool Ground and bond container and receiving equipment .Use explosion-proof electrical/ ventilating/ lighting/ equipment
- Take action to prevent static discharges
- Do not breathe dust/fume/gas/mist/vapors/spray
- Wash face, hands and any exposed skin 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/clothing and eye/face protection
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response

- Specific treatment (see label) : IF exposed or concerned: Call a POISON CENTER or doctor
- IF ON SKIN: Wash with plenty of water and soap
- Take off immediately all contaminated clothing and wash it before reuse
- Call a doctor if you feel unwell



IF INHALED: Remove person to fresh air and keep comfortable for breathing
Call a doctor
IF SWALLOWED: Immediately call a doctor
Rinse mouth
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

Precautionary Statements - Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Other hazards which do not result in classification

Risk of blindness after swallowing the product
Harmful to aquatic life

3. Composition and ingredient information

Chemical name	CAS number	%
Methanol	67-56-1	99

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4. First-aid measures

Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
Inhalation	Remove to fresh air. IF exposed or concerned: Get medical advice/attention. If breathing has stopped, give artificial respiration. Get medical attention immediately. Immediate medical attention is required. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen.



Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical advice/attention. Remove contact lenses, if present and easy to do. Continue rinsing.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.
Ingestion	DO NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.
Self-protection of the first aider	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Do not breathe vapor or mist.
Most important symptoms and effects, both acute and delayed	
Symptoms	May cause redness and tearing of the eyes. Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.
Indication of any immediate medical attention and special treatment needed	
Note to physicians	Treat symptomatically.

5. Fire-fighting measures

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Suitable Extinguishing Media Large Fire	Dry chemical. Carbon dioxide (CO2). water spray. Alcohol resistant foam. CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
Specific hazards arising from the chemical	risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Hazardous combustion products	Carbon Monoxide, Carbon Dioxide.
Explosion data Sensitivity to mechanical impact	none.
Sensitivity to static discharge	yes.



Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".
Environmental precautions	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
Methods and materials for containment and cleaning up	
Small spill	Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large spill	Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Precautions for safe handling



Advice on safe handling	Use personal protection equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Take off contaminated clothing and wash before reuse. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Do not breathe vapor or mist. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation.
Conditions for safe storage, including any incompatibilities	
Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep out of the reach of children. Store locked up.

8. Exposure Controls/ Personal Protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Methanol	<p>ACGIH TLV (United States, 3/2017).</p> <p>Absorbed through skin.</p> <p>STEL: 328 mg/m³ 15 minutes.</p> <p>STEL: 250 ppm 15 minutes.</p> <p>TWA: 262 mg/m³ 8 hours.</p> <p>TWA: 200 ppm 8 hours.</p> <p>NIOSH REL (United States, 10/2016).</p> <p>Absorbed through skin.</p> <p>STEL: 325 mg/m³ 15 minutes.</p> <p>STEL: 250 ppm 15 minutes.</p> <p>TWA: 260 mg/m³ 10 hours.</p>



	<p>TWA: 200 ppm 10 hours.</p> <p>OSHA PEL (United States, 6/2016).</p> <p>TWA: 260 mg/m³ 8 hours.</p> <p>TWA: 200 ppm 8 hours.</p> <p>OSHA PEL 1989 (United States, 3/1989).</p> <p>Absorbed through skin.</p> <p>STEL: 325 mg/m³ 15 minutes.</p> <p>STEL: 250 ppm 15 minutes.</p> <p>TWA: 260 mg/m³ 8 hours.</p> <p>TWA: 200 ppm 8 hours.</p>
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Appropriate engineering controls	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
Individual protection measures	
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side shields.
Skin protection	
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assess -



	ment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Body protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear antistatic protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

9. Physical and chemical properties

Physical state	Liquid. [Clear, Colorless, Flammable, Poisonous Liquid With Characteristic Pungent Odor]
Color	Colorless. Clear.
Odor	Characteristic.
Odor threshold	Not available
pH	Not available
Melting point	-97.8°C (-144°F)
Boiling point	64.7°C (148.5°F)
Critical temperature	Not available.
Flash point	Closed cup: 9.7°C (49.5°F)
Evaporation rate	2.1 (butyl acetate = 1)
Flammability (solid, gas)	Not available.
Lower and upper explosive (flammable) limits	Lower: 6% Upper: 44%



Vapor pressure	16.9 kPa (126.96 mm Hg) [room temperature]
Vapor density	1.1 (Air = 1)
Specific Volume (ft³/lb) Gas Density (lb/ft³)	Not available
Relative density	0.79
Solubility	Not available.
Solubility in water	1000 g/l
Partition coefficient: noctanol/water	-0.77
Auto-ignition temperature	455°C (851°F)
Decomposition temperature	Not available
Viscosity	Dynamic (room temperature): 0.54 to 0.59 mPa·s (0.54 to 0.59 cP)
Flow time (ISO 2431)	Not available
Molecular weight	32.05 g/mole

10. Stability and reactivity

Reactivity	Stable under recommended storage conditions
Chemical stability	At normal pressure may be distilled without decomposition.
Possibility of hazardous reactions	Hazardous polymerisation does not occur
Conditions to avoid	Heat, flames and sparks. Keep away from direct sunlight
Incompatible materials	Oxidizing agents
Hazardous decomposition products	In case of fire hazardous decomposition products may be produced such as: Carbon monoxide

11. Toxicological information

Information on hazard classes as defined in Regulation (EC) No 1272/2008



Acute toxicity

Acute oral toxicity	Classification based on Annex VI of regulation 1272/2008/EC.
Acute dermal toxicity	Classification based on Annex VI of regulation 1272/2008/EC.
Acute inhalation toxicity:	Classification based on Annex VI of regulation 1272/2008/EC
Acute toxicity (other routes of administration):	No data available
Skin corrosion/irritation	Species: Rabbit Result: No skin irritation
Serious eye damage/eye irritation	Species: Rabbit Result: No eye irritation
Respiratory or skin sensitisation	No data available
Germ cell mutagenicity	Note: In vitro tests did not show mutagenic effects
Note: In vivo tests did not show mutagenic effects	
STOT-single exposure	No data available
STOT - repeated exposure	No data available
Aspiration hazard:	No data available
Information on other hazards	
Endocrine disrupting properties	No data available
Other information	Solvent vapours have a narcotic effect if inhaled in high concentrations. When swallowed, there is a danger of blindness. Causes damage to organs (eyes, nervous system, systemic toxicity)

12. Ecological information

Toxicity

Toxicity to fish	LC50 Species: Lepomis macrochirus (Bluegill sunfish) Value: 15.400 mg/l Exposure time: 96 h
Toxicity to aquatic plants	No data available



Toxicity to Microorganisms	EC50 Species: Bacteria Value: ca. 71.000 mg/l
Toxicity to aquatic invertebrates	EC50 Species: Daphnia magna (Water flea) Value: > 10.000 mg/l Exposure time: 48 h
Persistence and degradability	
Biodegradability	Biodegradation: 99 % Result: Readily biodegradable. Method: OECD Test Guideline 301D
Bio accumulative potential	Bioaccumulation is unlikely.
Mobility in soil	No data available
Results of PBT and vPvB assessment	No data available
Endocrine disrupting properties	No data available
Other adverse effects	Biochemical Oxygen Demand (BOD) : 1.120 mg/g Chemical Oxygen Demand (COD): 1.500 mg/g Do not flush into surface water or sanitary sewer system

13. Disposal considerations

Disposal methods	The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
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14. Transport information

DOT	
UN/ID no	UN1230
Proper Shipping Name	Methanol
Hazard class	3
Subsidiary Class	6.1
Packing group	II
Special Provisions	IB2, T7, TP2
Marine Pollutant	Severe Marine Pollutant
Description	UN1230, Methanol, 3 (6.1), II
Emergency Response Guide Number	131

TDG	
UN-No	UN1230
Proper Shipping Name	Methanol
Hazard class	3
Subsidiary Class	6.1
Packing Group	II
Description	UN1230, Methanol, 3 (6.1), II

MEX	
UN-No	UN1230
Proper Shipping Name	Methanol
Hazard class	3
Subsidiary Class	6.1
Special Provisions	279
Packing Group	II
Description	UN1230, Methanol, 3 (6.1), II



ICAO (air)	
UN-No	UN1230
Proper Shipping Name	Methanol
Hazard class	3
Subsidiary hazard class	6.1
Packing Group	II
Special Provisions	A113
Description	UN1230, Methanol, 3 (6.1), II

IATA	
UN number	UN1230
Proper Shipping Name	Methanol
Transport hazard class(es)	3
Subsidiary hazard class	6.1
Packing group	II
Description	UN1230, Methanol, 3 (6.1), II

IMDG	
UN number	UN1230
Proper shipping name	Methanol
Transport hazard class(es)	3
Subsidiary hazard class	6.1
Packing group	II
EmS-No	F-E, S-D
Special Provisions	279
Marine pollutant	NP1
Description	UN1230, Methanol, 3 (6.1), II, (11°C c.c.)



RID	
UN number	UN1230
Proper Shipping Name	Methanol
Transport hazard class(es)	3
Packing group	II
Classification code	FT1
Special Provisions	279
Description	UN1230, Methanol, 3 (6.1), II
Labels	3 + 6.1

ADR	
UN number	1230
Proper Shipping Name	Methanol
Transport hazard class(es)	3
Subsidiary hazard class 6.1	6.1
Packing group	II
Classification code	FT1
Tunnel restriction code	(D/E)
Special Provisions	279
Description	1230, Methanol, 3 (6.1), II, (D/E)
Labels	3 + 6.1

AND	
UN/ID No	UN1230
Proper shipping name	Methanol
Transport hazard class(es)	3
Packing Group	II
Classification code	FT1



Special Provisions	279, 802
Description	UN1230, Methanol, 3 (+ 6.1), II
Hazard label(s)	3 + 6.1
Limited quantity (LQ)	1 L
Ventilation	VE01, VE02
Equipment Requirements	PP, EP, EX, TOX, A

15. Regulatory information

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

Basis	Value	Remarks
Directive 2012/18/EC SEVESO III Listed in Regulation : Methanol	Quantity: 500.000 kg Quantity: 5.000.000 kg	
Regulation (EC) No. 1907/2006, Annex XVII		This product contains an ingredient according to Annex XVII of the REACH Regulation 1907/2006/EC.
Substances of very high concern (SVHC)		This product does not contain substances of very high concern according to Regulation (EC) No Article 57 above the respective regulatory 1907/2006 (REACH), concentration limit of $\geq 0.1\%$ (w/w).

Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

16. Any other information

History

Product name
Product code



Date of printing
Date of issue/Date of revision
Date of previous issue
Version
Prepared by

17. Change Details

