

MATERIAL SAFETY DATA SHEET

Product Name: Methanol

CAS No.: 67-56-1

Version: 01

1. Identification

Product Code : 90030, 90029, 90028, 90724, 90188, 90460, 90461, 90604, 91631, 90098, 98105
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2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
METHANOL	67-56-1	99 - 100%

3. Hazards Identification

Hazard classification

Physical hazards

Flammable liquids : Category 2

Health hazards

Acute Toxicity(Oral) : Category 3

Acute toxicity (Dermal) : Category 3

Acute toxicity (Inhalation - vapor) : Category 3

Skin corrosion/irritation : Category 2

Serious eye damage/eye irritation : Category 2

Toxic to reproduction : Category 2

Specific target organ toxicity - single exposure : Category 1

Labels elements

Hazard symbol



Signal word

: Danger

Hazard statement

: Toxic in contact with skin.
 Toxic if inhaled.
 Toxic if swallowed.
 Highly flammable liquid and vapor.
 Causes skin irritation.
 Causes serious eye irritation.
 Suspected of damaging fertility or the unborn child.

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Causes damage to organs.

- : Obtain special instructions before use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

Response

- : IF exposed or concerned: Get medical advice/attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Storage

- : Store at room temperature below 30°C in original packing, keep container tightly closed away from source of ignition, handle at inert atmosphere.

Disposal

Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification

- : Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

4. First Aid Measures**General information**

- : Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

Ingestion

- : Call a physician or poison control center immediately. Do NOT induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Inhalation

- : Move to fresh air. Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen.

Skin contact

- : Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician or poison control center immediately. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Eye contact

- : Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

Most important symptoms/effects, acute and delayed

- : Toxic if inhaled. Toxic if swallowed. Toxic in contact with skin. Irritating to eyes, respiratory system and skin.

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Indication of immediate medical attention and special treatment needed : Treat symptomatically. Symptoms may be delayed.

5. Fire Fighting Measures

General fire hazards : Static charges generated by emptying package in or near flammable vapor may cause flash fire .

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media : Avoid water in straight hose stream; will scatter and spread fire .

Specific hazards arising from the chemical : Can be ignited easily and burns vigorously. Vapor from the solvent may accumulate in container headspace resulting in flammability hazard. Fire may produce irritating, corrosive and/or toxic gases.

Special protective equipment and precautions for firefighters

Special fire fighting procedures : Use water spray to keep fire-exposed containers cool. Fight fire from a protected location. Move containers from fire area if you can do so without risk. Cool containers exposed to flames with water until well after the fire is out.

Special protective equipment for fire-fighters : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment. Keep unauthorized personnel away. Keep upwind. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the MSDS for Personal Protective Equipment.

Methods and material for containment and cleaning up : Eliminate all ignition sources if safe to do so. Use only non-sparking tools. All equipment used when handling the product must be grounded. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures : Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

Environmental precautions : Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

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7. Handling and Storage

- Precautions for safe handling** : DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharge. Use only non-sparking tools. Use personal protective equipment as required. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Do not eat, drink or smoke when using the product. Use only with adequate ventilation. Wash hands thoroughly after handling. See Section 8 of the MSDS for Personal Protective Equipment .
- Conditions for safe storage, including any incompatibilities** : Store at room temperature below 30°C in original packing, keep container tightly closed away from source of ignition, handle at inert atmosphere. Keep away from food, drink and animal feeding stuffs. Keep out of reach of children. Ground container and transfer equipment to eliminate static electric sparks. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids.

8. Exposure Controls Personal Protection

Control parameters

Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
METHANOL	TWA	200 ppm	US. ACGIH Threshold Limit Values (2011)
	STEL	250 ppm	US. ACGIH Threshold Limit Values (2011)
	STEL	250 ppm 325 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	REL	200 ppm 260 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	200 ppm 260 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	200 ppm 260 mg/m ³	US.OSHA Table Z-1-A(29 CFR 1910.1000) (1989)
	STEL	250 ppm 325 mg/m ³	US.OSHA Table Z-1-A(29 CFR 1910.1000) (1989)

Appropriate engineering controls : No data available.

Individual protection measures, such as personal protective equipment

General information : Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

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Eye/face protection	:	Chemical goggles and face shield are recommended.
Hand protection	:	Chemical resistant gloves.
Other	:	Wear suitable protective clothing and gloves .
Respiratory protection	:	In case of inadequate ventilation use suitable respirator.
Hygiene measures	:	Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned. Wash contaminated clothing before reuse.

9. Physical and Chemical Properties

Appearance	:	Clear, colorless liquid.
Odor	:	Characteristic
Solubility	:	Miscible in water.
pH	:	No data available
Melting point/freezing point	:	-97.8 °C
Initial boiling point and boiling range:	:	64 °C (101.3 kPa)
Flash Point	:	12 °C (Closed Cup)
Relative density	:	0.8 (25 °C)

10. Stability and Reactivity

Reactivity	:	Contact with metals may evolve flammable hydrogen gas
Chemical stability	:	Material is stable under normal conditions.
Possibility of hazardous reactions	:	Hazardous polymerization does not occur.
Conditions to avoid	:	Heat, sparks, flames. Sunlight.
Incompatible materials	:	Strong oxidizing agents. Acids .
Hazardous decomposition products	:	Thermal decomposition may release oxides of carbon. Formaldehyde. Toxic gas .

11. Toxicological Information**Information on likely routes of exposure**

Ingestion	:	Toxic if swallowed.
Inhalation	:	Toxic by inhalation.
Skin contact	:	Toxic in contact with skin.
Eye contact	:	Causes serious eye irritation.

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Information on toxicological effects
Acute toxicity (list all possible routes of exposure)

Oral Product	: LD 50 (Rat): 5,628 mg/kg LD 50 (Rabbit): 14,400 mg/kg
Dermal Product	: LD 50 (Rabbit): 15,800 mg/kg
Inhalation Product	: LC 50 (Rat, 6 h): 87.5 mg/l
Repeated dose toxicity Product	: In serious cases absorption of methanol in the body may lead to damage to the eyesight.
Skin corrosion/irritation Product	: Causes skin irritation.
Serious eye damage/eye irritation Product	: Causes eye irritation.
Respiratory or skin sensitization Product	: Not a skin sensitizer.
Carcinogenicity Product	: This substance has no evidence of carcinogenic properties.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans	: No carcinogenic components identified.
US. National Toxicology Program (NTP) Report on Carcinogens	: No carcinogenic components identified.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	: No carcinogenic components identified.
Germ cell mutagenicity	
In vitro Product	: No mutagenic components identified.
In vivo Product	: No mutagenic components identified.
Reproductive toxicity Product	: Suspected of damaging fertility or the unborn child.
Specific target organ toxicity - single exposure Product	: Central nervous system. Eyes.
Specific target organ toxicity - repeated exposure Product	: None known.
Aspiration hazard Product	: No data available.
Other effects	: None known.

12. Ecological Information
Ecotoxicity
Acute hazards to the aquatic environment :

Fish Product	: LC 50 (Fathead minnow (Pimephales promelas), 96 h): > 100 mg/l
Aquatic invertebrates Product	: EC 50 (Water flea (Daphnia magna), 48 h): > 10,000 mg/l

Chronic hazards to the aquatic environment :

Fish Product	: No data available.
Aquatic invertebrates Product	: No data available.
Toxicity to Aquatic Plants Product:	: No data available.

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- Biodegradation Product** : Expected to be readily biodegradable.
- BOD/COD ratio Product** : No data available.
- Bioaccumulative potential**
- Bioconcentration factor (BCF) Product** : May accumulate in soil and water systems .
- Partition coefficient n-octanol / water (log Kow) Product** : Log Kow: -0.77
- Mobility in soil** : No data available.
- Other adverse effects** : The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment .

13. Disposal consideration

- Disposal instructions** : Discharge, treatment, or disposal may be subject to national, state, or local laws.
- Contaminated packaging** : Since emptied containers retain product residue, follow label warnings even after container is empty .

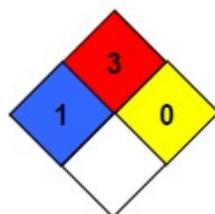
14. Transport Information

	UN No.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
DOT	UN 1230	METHANOL	3(6.1)	II	No
IMDG	UN 1230	METHANOL	3(6.1)	II	No
IATA	UN 1230	METHANOL	3(6.1)	II	No

15. Regulatory Information

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

Safety, health and environmental regulations/legislation specific for the substance or mixture
No Data Available.

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Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

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