

**SAFETY DATA SHEET****1. IDENTIFICATION**

Product name: Methanol

CAS No. : 67-56-1

Brand: Macklin

Company: Shanghai Macklin Biochemical Co.,Ltd.

Address: Shanghai Pudong Zhangjiang High-tech Park; 10th Building, 5F, 88 Darwin Road; SHANGHAI CHINA

Zip code: 201206

Telephone: +86 21-51328699

Fax: +86 21-51821727 /+86 21-51821728

E-mail: sales@macklin.cn; tech@macklin.cn

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**2. HAZARDS IDENTIFICATION**

GHS classification

PHYSICAL HAZARDS

Flammable liquids Category 2

HEALTH HAZARDS

Acute toxicity (Oral) Category 5

Serious eye damage/eye irritation Category 2A

Reproductive toxicity Category 1B

Specific target organ toxicity Visual system, Central nervous system

- Single exposure [Category 1]

Specific target organ toxicity Respiratory tract irritation, Narcotic effects

- Single exposure [Category 3]

Specific target organ toxicity Visual system, Central nervous system

- Repeated exposure [Category 1]

ENVIRONMENTAL HAZARDS

Not classified

GHS label elements, including precautionary statements

Pictograms or hazard symbols



Signal word

Danger

Hazard statements

Highly flammable liquid and vapour

May be harmful if swallowed

Causes serious eye irritation

May damage fertility or the unborn child

Causes damage to organs : Visual system Central nervous system

Causes damage to organs through prolonged or repeated exposure : Visual system Central nervous system

May cause respiratory irritation

May cause drowsiness or dizziness

Precautionary statements

[Prevention]

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against ignition by the static discharge and the spark.

Do not breathe dust/fume/gas/mist/vapours/spray.

Use only outdoors or in a well-ventilated area.

Do not eat, drink or smoke when using this product.

Wash hands thoroughly after handling.

Wear protective gloves/eye protection/face protection.

[Response]

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF exposed or concerned: Get medical advice/attention.

[Storage]

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

Store locked up.

[Disposal]

Dispose of contents/container through a waste management company authorized by the local government.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/mixture: Substance

Components: Methanol

CAS No.: 67-56-1

Chemical Formula: CH<sub>4</sub>O

### 4. FIRST AID MEASURES

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention.

Skin contact: Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. Get medical advice/attention.

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Get medical advice/attention.

Ingestion: Get medical advice/attention. Rinse mouth.

Most important Cough, Dizziness, Headache, Nausea, Weakness, Blurred Vision, Abdominal pain, symptoms/effects, acute Shortness of breath, Vomiting, Convulsions, Unconsciousness, Dry skin, Redness,

and delayed: Pain

Protection of first-aiders: A rescuer should wear personal protective equipment, such as rubber gloves and air-tight goggles.

Indication of immediate Medical observation is indicated. Depending on the degree of exposure, periodic

medical attention and medical examination is indicated.

special treatment needed, if necessary:

### 5. FIRE-FIGHTING MEASURES

Suitable extinguishing Dry chemical, foam, water in large amounts, carbon dioxide.  
media:

Precautions for firefighters: Fire-extinguishing work is done from the windward and the suitable fire-

extinguishing

method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Keep containers cool by spraying with water. Eliminate all ignition sources if safe to do so.  
Special protective equipment for firefighters: When extinguishing fire, be sure to wear personal protective equipment for firefighters:

## 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, Use extra personal protective equipment (self-contained breathing apparatus). Keep protective equipment and people away from and upwind of spill/leak. Ensure adequate ventilation. Entry to non-emergency procedures: involved personnel should be controlled around the leakage area by roping off, etc.

Environmental precautions: Prevent product from entering drains.

Methods and materials for Absorb spilled material in dry sand or inert absorbent before recovering it into a containment and cleaning airtight container. In case of large amount of spillage, contain a spill by bunding.

up: Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

Prevention of secondary hazards: Remove all sources of ignition. Fire-extinguishing devices should be prepared in case of a fire. Use spark-proof tools and explosion-proof equipment.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

Technical measures: Handling is performed in a well ventilated place. Wear suitable protective equipment.

Prevent generation of vapour or mist. Keep away from heat/sparks/open flame/hot surfaces. -No smoking. Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment. Wash hands and face thoroughly after handling.

Use a closed system if possible. Use a ventilation, local exhaust if vapour or aerosol will be generated.

Advice on safe handling: Avoid all contact! Conditions for safe storage, including any

### Conditions for safe storage, including any incompatibilities

Storage conditions: Keep container tightly closed. Store in a cool, dark and well-ventilated place. Store locked up.

Store away from incompatible materials such as oxidizing agents.

Packaging material: Comply with laws.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls: Install a closed system or local exhaust. Also install safety shower and eye bath.

Exposure limits:

ACGIH TLV(TWA): 200 ppm (skin)

ACGIH TLV(STEL): 250 ppm (skin)

OSHA PEL(TWA): 200 ppm

Personal protective equipment

Respiratory protection: Half or full facepiece respirator, self-contained breathing apparatus(SCBA), supplied

air respirator, etc. Use respirators approved under appropriate government standards and follow local and national regulations.

Hand protection: Impervious gloves.

Eye protection: Safety goggles. A face-shield, if the situation requires.

Skin and body protection: Impervious protective clothing. Protective boots, if the situation requires.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state (20°C): Liquid

Form: Clear

Colour: Colorless

Odour: Characteristic

Odour threshold: 100 ppm

pH: No data available

Melting point/freezing point: No data available

Boiling point/range: 64°C

Flash point: 12°C

Flammability or explosive limits:

Lower: 5.5%

Upper: 44%

Vapour pressure: 12.3kPa/20°C

Vapour density: 1.1

Relative density: 0.79

Solubility(ies):

[Water] Miscible

[Other solvents]

Miscible: Ether, Benzene, Ethanol, Many organic solvents

Log Pow: -0.82/-0.66

Autoignition temperature: 464°C

## 10. STABILITY AND REACTIVITY

Chemical stability: Stable under proper conditions.

Possibility of hazardous reactions: No special reactivity has been reported.

reactions:

Conditions to avoid: Spark, Open flame, Static discharge

Incompatible materials: Oxidizing agents, Acid chlorides, Acid anhydrides, Reducing agents

Hazardous decomposition products: Carbon monoxide, Carbon dioxide

products:

## 11. TOXICOLOGICAL INFORMATION

Acute Toxicity: ihl-hmn TCLo:86000 mg/m<sup>3</sup>

ihl-rat LC50:64000 ppm/4H

orl-hmn LDLo:143 mg/kg

orl-rat LD50:5600 mg/kg

skn-rbt LD50:15800 mg/kg

Skin corrosion/irritation: skn-rbt 20 mg/24H MOD

Serious eye eye-rbt 100 mg/24H MOD

damage/irritation:

Germ cell mutagenicity: dni-hmn-lym 300 mmol/L

mno-mus-lym 7900 mg/L (+S9)

mno-smc 12 pph (-S9)

Carcinogenicity:

IARC = No data available

NTP = No data available

Reproductive toxicity: ihl-rat TCLo:2.6 mg/m<sup>3</sup>(1-22D preg)

ihl-rat TCLo:15000 ppm/7H(7-19D preg)

orl-rat TDLo:5200 uL/kg(10D preg)

orl-rat TDLo:200 ppm/20H(78W male)

RTECS Number: PC1400000

## 12. ECOLOGICAL INFORMATION

Ecotoxicity:

Fish: 48h LC50:1400 mg/L (*Oryzias latipes*)

96h LC50:20100 mg/L (*Oncorhynchus mykiss*)

Crustacea: 48h EC50:24500 mg/L (Daphnia magna)

Algae: No data available

Persistence / degradability: 92 % (by BOD), 100 % (by GC), 99 % (by TOC)

Bioaccumulative <10

potential(BCF):

Mobility in soil

Log Pow: -0.82/-0.66

Soil adsorption (Koc): 2.75

Henry's Law -0.46

constant(PaM<sup>3</sup>/mol):

### 13. DISPOSAL CONSIDERATIONS

Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.

### 14. TRANSPORT INFORMATION

Hazards Class: 3: Flammable liquid. Subsidiary risk: 6.1: Toxic substance. UN-No: 1230 Proper shipping name: Methanol Packing group: II

### 15. REGULATORY INFORMATION

Regulations on the Control over Safety of Dangerous Chemicals (State Council announces on January 26, 2002 and revised on February 16,2011): Safe use and production, the storage of a dangerous chemical, transport, loading and unloading were prescribed. This product is included in the list of dangerous chemicals(2015)/Serial No.: 1022

### 16. OTHER INFORMATION

This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. The products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.