

1. IDENTIFICATION

Product name: Acetic acid

CAS No. : 64-19-7

Brand: Macklin

Company: Shanghai Macklin Biochemical Co.,Ltd.

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2. HAZARDS IDENTIFICATION

GHS classification

PHYSICAL HAZARDS

Flammable liquids Category 3

Corrosive to metals Category 1

HEALTH HAZARDS

Acute toxicity (Oral) Category 5

Acute toxicity (Dermal) Category 4

Skin corrosion/irritation Category 1B

Serious eye damage/eye irritation Category 1

Respiratory sensitization Category 1

Specific target organ toxicity Blood

- Single exposure [Category 1]

Specific target organ toxicity Respiratory system

- Single exposure [Category 2]

ENVIRONMENTAL HAZARDS

Acute aquatic hazard Category 3

GHS label elements, including precautionary statements

Pictograms or hazard symbols



Signal word

Danger

Hazard statements

Flammable liquid and vapour

May be corrosive to metals

May be harmful if swallowed

Harmful in contact with skin

Causes severe skin burns and eye damage

May cause allergy or asthma symptoms or breathing difficulties if inhaled

Causes damage to organs : Blood

May cause damage to organs : Respiratory system

Harmful to aquatic life

Precautionary statements

[Prevention]

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

Keep container tightly closed.

Keep only in original container.

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.

Avoid release to the environment.

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

Wash hands thoroughly after handling.

In case of inadequate ventilation wear respiratory protection.

Wear protective gloves and eye/face protection.

[Response]

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

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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

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

Wash contaminated clothing before reuse.

Immediately call a POISON CENTER or doctor/physician.

Absorb spillage to prevent material damage.

[Storage]

Store in a well-ventilated place. Keep cool.

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: Acetic acid

CAS No.: 64-19-7

Chemical Formula: $C_2H_4O_2$

4. FIRST AID MEASURES

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

Immediately call a POISON CENTER or doctor/physician.

Skin contact: Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. Immediately call a POISON CENTER or doctor/physician.

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Ingestion: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. Do NOT induce vomiting.

Most important Sore throat, Cough, Burning sensation, Headache, Dizziness, Shortness of breath, symptoms/effects, acute Laboured breathing, Abdominal pain, Diarrhoea, Collapse, Vomiting, Pain, Redness,

and delayed: Blistering, Burn, Loss of vision

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.

medical attention and

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 When extinguishing fire, be sure to wear personal protective equipment.
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 an

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 Remove all sources of ignition. Fire-extinguishing devices should be prepared in

hazards: 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 contact with skin, eyes and clothing.

Use corrosive resistant equipment. 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 under inert gas.

Protect from moisture.

Store locked up.

Store away from incompatible materials such as oxidizing agents.

Hygroscopic

Packaging material: Comply with laws. Keep only in original container.

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): 10 ppm

ACGIH TLV(STEL): 15 ppm

OSHA PEL(TWA): 10 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: Pungent
Odour threshold: 0.48 ppm
pH: No data available
Melting point/freezing point: 17°C
Boiling point/range: 118°C
Flash point: 41°C
Flammability or explosive limits:
Lower: 6%
Upper: 17%
Vapour pressure: 1.5kPa/20°C
Vapour density: 2.1
Relative density: 1.05
Solubility(ies):
[Water] Miscible
[Other solvents]
Miscible: Ether, Alcohols, Benzene, Acetone
Soluble: Many organic solvents
Insoluble: Carbon disulfide
Log Pow: -0.17
Autoignition temperature: 485°C

10. STABILITY AND REACTIVITY

Chemical stability: Stable under proper conditions.
Possibility of hazardous reactions: No special reactivity has been reported.
Conditions to avoid: Spark, Open flame, Static discharge
Incompatible materials: Oxidizing agents, Bases, Metals
Hazardous decomposition products: Carbon monoxide, Carbon dioxide

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: orl-rat LD50: 3310 mg/kg
ihl-rat LC50: 11000 mg/m³/4H
skn-rbt LD50: 1060 mg/kg
ivn-mus LD50: 525 mg/kg
Skin corrosion/irritation: skn-hmn 50 mg/24H MLD
skn-rbt 525 mg open SEV
Serious eye damage/irritation: eye-rbt 5 mg/30S rinse MLD
Germ cell mutagenicity: mmo-esc 300 ppm/3H (-S9)
cyt-ham-ovr 10 mmol/L
sce-hmn-lym 5 mmol/L
dns-mus-skn 79279 µg/kg
Carcinogenicity: orl-rat TDLo: 5760 mg/kg/32W-I
IARC = No data available
NTP = No data available

Reproductive toxicity: No data available
RTECS Number: AF1225000

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Fish: 48h LC50:92 mg/L (Pimephales promelas)

96h LC50:88 mg/L (Pimephales promelas)

Crustacea: 48h EC50:65 mg/L (Daphnia magna)

Algae: No data available Persistence / degradability: 74% (by BOD), 100% (by HPLC), 100% (by TOC)

Bioaccumulative No data available potential(BCF): Mobility in soil

Log Pow: -0.17

Soil adsorption (Koc): 6.5 - 228

Henry's Law 0.01

constant(PaM3/mol):

13. DISPOSAL CONSIDERATIONS

Recycle to process, if possible. Consult your local regional authorities. You may be able to 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: 8: Corrosive. Subsidiary risk: 3: Flammable liquid. UN-No: 2789 Proper shipping name: Acetic acid, glacial 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.: 2630

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.