

SAFETY DATA SHEET

1. IDENTIFICATION

Product name: Formic Acid [for LC-MS]
Product code: F0654
Company: Epoch Master GLOBAL BUSINESS(JIANGSU)INC.
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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

PHYSICAL HAZARDS

Flammable liquids Category 3
Corrosive to metals Category 1

HEALTH HAZARDS

Acute toxicity (Oral) Category 4
Acute toxicity (Inhalation) Category 3
Skin corrosion/ irritation Category 1A
Serious eye damage/eye irritation Category 1
Specific target organ toxicity
- Single exposure [Category 1] Blood system Respiratory system Kidney Central nervous system
Specific target organ toxicity
- Repeated exposure [Category 2] Respiratory system

ENVIRONMENTAL HAZARDS

Acute aquatic hazard Category 3

Label elements

Pictograms or hazard symbols



Signal word

Hazard statements

Danger
Flammable liquid and vapour
May be corrosive to metals
Harmful if swallowed
Toxic if inhaled
Causes severe skin burns and eye damage
Causes damage to organs : Blood system Respiratory system Kidney Central nervous system
May cause damage to organs through prolonged or repeated exposure : Respiratory system
Harmful to aquatic life

Precautionary statements

[Prevention]

Keep away from heat, sparks, open flames and hot surfaces. -No smoking.
Keep container tightly closed.
Keep only in original container.
Ground and bond container and receiving equipment.



[Response]

Use explosion-proof electrical, ventilating and lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist, vapors or spray.

Use only outdoors or in a well-ventilated area.

Avoid release to the environment.

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

Wash hands and face thoroughly after handling.

Wear protective gloves, protective clothing, face protection.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor.

IF IN EYES: 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.

If exposed or concerned: Call a POISON CENTER or doctor.

[Storage]

Absorb spillage to prevent material damage.

Store in corrosive resistant bottle or metal container with a resistant inner liner.

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

Store locked up.

[Disposal]

Dispose of contents and container in accordance with local, regional, national regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/ mixture: Substance
Components: Formic Acid [for LC-MS]
Percent: >98.0%(GC)
CAS RN: 64- 18-6
Chemical Formula: CH₂O₂

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

5. FIRE-FIGHTING MEASURES

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



6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:	Use extra personal protective equipment (self-contained breathing apparatus). Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.
Environmental precautions:	Prevent product from entering drains.
Methods and materials for containment and cleaning up:	Absorb spilled material in dry sand or inert absorbent before recovering it into an airtight container. In case of large amount of spillage, contain a spill by bunding. 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 contact with skin, eyes and clothing. Use corrosive resistant equipment.

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):	5 ppm
ACGIH TLV(STEL):	10 ppm
OSHA PEL(TWA):	5 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:	49 ppm
pH:	No data available
Melting point/freezing point:	8°C
Boiling point/range:	100°C
Flash point:	57°C
Flammability or explosive limits:	
Lower:	18%
Upper:	51%
Vapour pressure:	4.6kPa/20°C
Vapour density:	1.6
Relative density:	1.22
Solubility(ies):	
[Water]	Miscible
[Other solvents]	
Miscible:	Methanol, Ether, Ethanol, Glycerol
Soluble:	Benzene, Toluene, Xylene
Log Pow:	-0.54
Autoignition temperature:	520°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, Strong acids, Strong bases, Metal powders
Hazardous decomposition products:	Carbon dioxide, Carbon monoxide

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:	ihl-rat LC50:15 g/m ³ /15M ipr-mus LD50:940 mg/kg ivn-mus LD50:145 mg/kg orl-rat LD50:1100 mg/kg orl-wmn LDLo:2440 ug/kg
Skin corrosion/irritation: Serious eye damage/irritation:	skn-rbt 610 mg open MLD eye-rbt 122 mg SEV
Germ cell mutagenicity:	mno-esc 70 ppm/3H (-S9) pic-esc 100 mmol/L sce-hmn-lym 10 mmol/L
Carcinogenicity:	
IARC =	No data available
NTP =	No data available
Reproductive toxicity:	No data available
RTECS Number:	LQ4900000



12. ECOLOGICAL INFORMATION

Ecotoxicity:

Fish:	No data available
Crustacea:	No data available
Algae:	No data available
Persistence / degradability:	1 10 % (by BOD) , 100 % (by HPLC) , 100 % (by TOC)
Bioaccumulative potential(BCF):	0.22
Mobility in soil	
Log Pow:	-0.54
Soil adsorption (Koc):	No data available
Henry's Law (PaM ³ /mol):	1.69 x 10 ⁻²

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:	1779
Proper shipping name:	Formic acid
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.: 1175

16. OTHER INFORMATION

The reference company name of written contents

Company:	Epoch Master GLOBAL BUSINESS(JIANGSU)INC.
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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.