



EPOCH MASTER GLOBAL BUSINESS(JIANGSU)INC.

RM.3-93,TENGFEI BUILDING,NO.88 JIANGMIAO RD., RESEARCH AND INNOVATION PARK,

NANJING ZONE,(JIANGSU) PILOT FREE TRADE ZONE ,CHINA

Material Safety Data Sheet

DATE OF ISSUE: 2016-03-30

Section 1 - Chemical Product and Company Identification

Chemical Name: Fumaric Acid

Synonyms: 2-Butenedioic acid

Trade name: Fumaric Acid

Chemical Formula: C₄H₄O₄

Distributor: EPOCH MASTER GLOBAL BUSINESS (JIANGSU) INC.

Address: RM.3-93,TENGFEI BUILDING,NO.88 JIANGMIAO RD., RESEARCH AND INNOVATION PARK,NANJING ZONE, (JIANGSU) PILOT FREE TRADE ZONE, CHINA

For information, call: 13770711448

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ ELINCS
110-17-8	Fumaric Acid	99.5~ 100.5	203-743-0

Toxicological Data on Ingredients: Fumaric acid: ORAL (LD50): Acute: 10700 mg/kg [Rat]. DERMAL (LD50): Acute: 20000mg/kg [Rabbit].

Section 3 - Hazards Identification

Potential Acute Health Effects:

Hazardous in case of eye contact (irritant), of ingestion. Slightly hazardous in case of skin contact (irritant, permeator), of inhalation.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to lungs, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4 - First Aid Measures

Eye Contact:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping



EPOCH MASTER GLOBAL BUSINESS(JIANGSU)INC.

RM.3-93,TENGFEI BUILDING,NO.88 JIANGMIAO RD., RESEARCH AND INNOVATION PARK,

NANJING ZONE,(JIANGSU) PILOT FREE TRADE ZONE ,CHINA

eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

Skin Contact:

After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated

skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing. **Serious Skin Contact:** Not available.

Inhalation: Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

Serious Inhalation: Not available.

Ingestion:

Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Serious Ingestion: Not available.

Section 5 - Fire Fighting Measures

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not available.

Flash Points: Not available.

Flammable Limits: Not available.

Products of Combustion: These products are carbon oxides (CO, CO₂).

Fire Hazards in Presence of Various Substances: Not available.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6 - Accidental Release Measures

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill: Use a shovel to put the material into a convenient waste disposal container.

Section 7 - Handling and Storage



EPOCH MASTER GLOBAL BUSINESS(JIANGSU)INC.

RM.3-93,TENGFEI BUILDING,NO.88 JIANGMIAO RD., RESEARCH AND INNOVATION PARK,

NANJING ZONE,(JIANGSU) PILOT FREE TRADE ZONE ,CHINA

Precautions:

Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Avoid contact with eyes Wear

suitable protective clothing If ingested, seek medical advice immediately and show the container or the label.

Storage:

Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tightly closed. Keep in a cool, well-ventilated place. Combustible materials should be stored away from extreme heat and away from strong oxidizing agents.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne

contaminants below the exposure limit.

Personal Protection:

Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

Section 9 - Physical and Chemical Properties

Physical state and appearance: White powder

Odor: Weak odor

Taste: Not available.

Molecular Weight: 116.07 g/mole

Color: Not available.

pH (1% soln/water): Not available.

Boiling Point: Not available.

Melting Point: Sublimes. (299.6°C)

Critical Temperature: Not available.

Specific Gravity: 1.635 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

pH value: 2.1 (25°C. 50.0g/L)



EPOCH MASTER GLOBAL BUSINESS(JIANGSU)INC.

RM.3-93,TENGFEI BUILDING,NO.88 JIANGMIAO RD., RESEARCH AND INNOVATION PARK,

NANJING ZONE,(JIANGSU) PILOT FREE TRADE ZONE ,CHINA

Water/Oil Dist. Coeff. : Not available.

Ionicity (in Water): Not available.

Dispersion Properties: Not available.

Solubility: Slightly soluble in cold water.

Section 10 - Stability and Reactivity

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Not available.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: No.

Section 11 - Toxicological Information

Routes of Entry: Eye contact. Ingestion.

Toxicity to Animals:

Acute oral toxicity (LD50): 10700 mg/kg [Rat]. Acute dermal toxicity (LD50): 20000 mg/kg [Rabbit].

Chronic Effects on Humans: The substance is toxic to lungs, mucous membranes.

Other Toxic Effects on Humans:

Hazardous in case of ingestion. Slightly hazardous in case of skin contact (irritant, permeator), of inhalation. **Special Remarks on Toxicity to Animals:** Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

Section 12 - Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise. **Toxicity of the Products of Biodegradation:** The products of degradation are more toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13 - Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.



EPOCH MASTER GLOBAL BUSINESS(JIANGSU)INC.

RM.3-93,TENGFEI BUILDING,NO.88 JIANGMIAO RD., RESEARCH AND INNOVATION PARK,
NANJING ZONE,(JIANGSU) PILOT FREE TRADE ZONE ,CHINA

Section 14 - Transport Information

DOT Classification: Not a DOT controlled material (United States).

RID/ADR: Non-Hazardous for transport, this substance is considered to be non-hazardous for transport

IATA: Non-Hazardous for Air Transport

IMO: Non-Hazardous for Sea Transport

Section 15 - Regulatory Information

WHMIS (Canada): CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC): R36- Irritating to eyes.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 1

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 1

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Section 16 - Additional Information

MSDS Creation Date: 05/08/2010

Disclaimer:

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if we has been advised of the possibility of such damages.