

SAFETY DATA SHEET

Version: v1
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : Fumaric acid
Product Number : F110741
Brand : aladdin
CAS-No. : 110-17-8

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : 仅供科研用途，不作为药物、家庭备用药或其它用途。

1.3 Details of the supplier of the safety data sheet

Company : Shanghai Aladdin Biochemical Tech Co.,Ltd
Address : 36 Xinjinqiao Road, Shanghai
Telephone : 400-620-6333
Fax : no data available

1.4 Emergency telephone number

Emergency Phone : 0532-83889090

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

H316 Causes mild skin irritation
H319 Causes serious eye irritation
H402 Harmful to aquatic life

Precautionary statement(s)

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

SECTION 3: Composition/information on ingredients**3.1 Substances**

Synonyms	: TMEDA trans-2-Butenedioic Acid
Formula	: C ₄ H ₄ O ₄
Molecular weight	: 116.07
CAS No.	: 110-17-8
EC-NO.	: 203-743-0

Component	Classification	Concentration
Fumaric acid		
	no data available	99%

SECTION 4: First aid measures**4.1 Description of first aid measures****General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

no data available

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

no data available

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products formed under fire conditions.- Carbon oxides

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.Avoid dust formation.Avoid breathing vapors, mist or gas.Ensure adequate ventilation.Avoid breathing dust.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so.Do not let product enter drains.Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust.Sweep up and shovel.Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

no data available

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes.Avoid formation of dust and aerosols.Provide appropriate exhaust ventilation at places where dust is formed.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice.Wash hands before breaks and at the end of workday.

Personal protective equipment

Phone: +1 (833) 552-7181 Email: QualityAssurance@aladdinsci.com Website: <https://www.aladdinsci.com/>

Eyeface protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

no data available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	no data available
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	2.1 at 4.9 g/l at 20 °C (68 °F)
e) Melting point/freezing point	Melting point/range: 298 - 300 °C (568 - 572 °F)
f) Initial boiling point and boiling range	290 °C (554 °F) at 760 hPa (570 mmHg) - DIN 53171
g) Flash point	230 °C (446 °F) - closed cup - DIN 51755 Part 1
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	40 %(V)/3 %(V)
k) Vapour pressure	2.2 hPa (1.7 mmHg) at 165 °C (329 °F)
l) Vapour density	no data available
m) Relative density	1.635 g/cm ³ at 20 °C (68 °F)
n) Water solubility	Soluble in water, slightly soluble in cold water, ether, benzene, easily soluble in hot water, soluble in ethanol.
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	375 °C
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties N	no data available
t) Oxidizing properties N	no data available

9.2 Other safety information

no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

Oxidizing agents, Amines, Strong bases

10.5 Incompatible materials

Hazardous decomposition products formed under fire conditions.- Carbon oxides

10.6 Hazardous decomposition products

no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Skin - rabbit - Mild skin irritation - 24 h

Skin corrosion/irritation

Eyes - rabbit - Moderate eye irritation - 24 h

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Carcinogenicity

no data available

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

May be harmful if inhaled.Causes respiratory tract irritation.

Aspiration hazard

Toxicity to fish mortality - Danio rerio (zebra fish) - 245 mg/l - 48 h Method: DIN 38412 Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 73.6 mg/l - 24 h Method: DIN 38412 Toxicity to algae Growth inhibition EC50 - Desmodesmus subspicatus (green algae) - 41 mg/l - 72 h

Additional Information

no data available

SECTION 12: Ecological information

12.1 Toxicity

no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.Harmful to aquatic life.

12.6 Other adverse effects

no data available

SECTION 13:

13.1 Disposal considerations

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product

SECTION 14: Transport information

DOT (US)

UN number: 3077

Packing group: III

Class: 9

Proper shipping name: no data
availableReportable Quantity(RQ): no data
availablePoison Inhalation Hazard: no data
available

Environmental Hazards: No

IMDG

UN number: 3077

Packing group: III

EMS-No: no data available

Proper shipping name: no data available

IATA

UN number: 3077

Packing group: III

Class: 9

Proper shipping name: no data available

SECTION 15: Regulatory information

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

SECTION 16: Other information**Further information**

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