

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 : Laboratory chemicals, Manufacture of substances.

1.3 Company

Company : ALADDIN SCIENTIFIC CORPORATION
Address : 14078 Meridian Parkway,
Riverside, CA. 92518
Telephone : +1 (833) 552-7181
Fax : no data available

1.4 Emergency telephone number

CHEMTREC®, Inside the USA : 1-800-424-9300
CHEMTREC®, Outside the USA :

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)

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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P305+P351+P338

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

P264+P265

Wash hands [and ...] thoroughly after handling. Do not touch eyes.

P337+P317

If eye irritation persists: Get medical help.

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	: C4H4O4
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

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

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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

Eye/face 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

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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

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Oxidizing agents, Amines, Strong bases

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions.- Carbon oxides

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Skin - rabbit - Mild skin irritation - 24 h

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

Eyes - rabbit - Moderate eye irritation - 24 h

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

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no data available

Carcinogenicity

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.

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

May be harmful if inhaled. Causes respiratory tract irritation.

Additional Information

no data available

SECTION 12: Ecological information**12.1 Toxicity**

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

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

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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 available	Reportable Quantity(RQ): no data available	Poison 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

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