

Revision Date 01.01.2025
Data of first issue 09.01.2017

Material Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers

Product name Dimethyl fumarate
Product number A020400
Brand 3ASenrise
CAS number 624-49-7

1.2 Details of the supplier of the safety data sheet

Company: Anhui Senrise Technology Co., Ltd.
Address: No.88 Weisan Road, High-Tech Industrial Development Zone, Anqing, Anhui
Post code: 246003
Tel: 400-005-6266
Fax: 0556-5555368
Email: service@3asenrise.com

1.3 Emergency telephone

Emergency telephone: 0556-5500208

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

Identified uses: For R&D use only. Not for pharmaceutical, household or other uses.

2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Acute toxicity, Oral (Category 5), H303
Acute toxicity, Dermal (Category 4), H312
Skin corrosion/irritation (Category 2), H315
Skin sensitization (Category 1), H317
Specific target organ toxicity - single exposure (Category 3), respiratory tract irritation, H335
Short-term (acute) aquatic hazard (Category 2), H401 Long-term (chronic) aquatic hazard (Category 2), H411

2.2 GHS label elements, including precautionary statements

Pictogram



Signal word: Warning

Hazard statement(s)

H315 Causes skin irritation.

H312 Harmful in contact with skin.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H411 Toxic to aquatic life with long lasting effects.
H303 May be harmful if swallowed.

Precautionary statement(s)

Prevention

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P264 Wash hands thoroughly after handling.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P271 Use only outdoors or in a well-ventilated area.

Response

P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P333+P313 IF SKIN irritation or rash occurs: Get medical advice/attention.
P391 Collect spillage. Hazardous to the aquatic environment
P304+P340+P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/ doctor if you feel unwell.
P302+P352+P312 IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/doctor if you feel unwell.

Storage

P405 Store locked up.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Disposal

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Physical and chemical hazards

No data available

2.4 Health hazards

H315 Causes skin irritation.
H312 Harmful in contact with skin.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H303 May be harmful if swallowed.

2.5 Environmental hazards Code

H411 Toxic to aquatic life with long lasting effects.
H401 Toxic to aquatic life.

2.6 Other hazards

No data available

3 COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture: Substance

3.1 Substance

Name	Dimethyl fumarate
Formula	C6H8O4
Molecular Weight	144.13
CAS	624-49-7
Concentration	99%

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.

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

Do NOT induce vomiting. 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.

5 FIREFIGHTING MEASURES

5.1 Extinguishing media

Water Foam Carbon dioxide (CO₂) Dry powder

5.2 Special hazards arising from the substance or mixture

Carbon oxides Combustible. Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

6.4 Reference to other section

For disposal see section 13.

7 HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

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

sources of ignition.

Long term storage: RT

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

No data available.

8.2 Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses.

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product.

Body protection

Flame retardant antistatic protective clothing.

Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

Control of environmental exposure

Do not let product enter drains. Risk of explosion.

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance	White solid
b) Odor	odorless
c) pH	4.0 – 6.0 at 10 g/l at 20 ° C suspension
d) Melting point/freezing point	102 ° C
e) Initial boiling point and boiling range	192 – 193 ° C
f) Upper/lower flammability or explosive limits	No data available
g) Flash point	No data available
h) Evaporation rate	No data available
i) Vapor pressure	5 hPa at 25 ° C
j) Vapor density	No data available
k) Density	1.0283 g/cm ³ at 20 ° C
l) Water solubility	1.6 g/l at 20 ° C
m) Partition coefficient: n-octanol/water	No data available
n) Autoignition temperature	No data available
o) Decomposition temperature	No data available
p) Flammability	No data available

10 STABILITY AND REACTIVITY

10.1 Chemical stability

No data available.

10.2 Conditions to avoid

No data available.

10.3 Incompatible materials

acids, Bases, Strong oxidizing agents, Reducing agents

10.4 Hazardous decomposition products

In the event of fire: see section 5.

11 TOXICOLOGICAL INFORMATION

11.1 Acute toxicity

LD50 Oral

- Rat - 2,240 mg/kg

LC50 Inhalation

No data available

LD50 Dermal

- Rabbit - 1,250 mg/kg

11.2 Skin corrosion/irritation

Skin - Rabbit Result: Moderate skin irritation - 24 h Remarks: Causes skin irritation.

11.3 Serious eye damage/eye irritation

Eyes - Rabbit Result: Severe irritations - 24 h Remarks: Causes serious eye damage.

11.4 Respiratory or skin sensitization

Sensitisation test: - Guinea pig Result: positive

11.5 Germ cell mutagenicity

Test Type: Ames test Result: negative Test Type: Mutagenicity (mammal cell test):
micronucleus. Result: negative

11.6 Carcinogenicity

No data available

11.7 Reproductive toxicity

Did not show teratogenic effects in animal experiments. Animal testing did not show any effects on fertility.

11.8 Specific target organ toxicity - single exposure

May cause respiratory irritation.

11.9 Specific target organ toxicity - repeated exposure

No data available

11.10 Aspiration hazard

no data available.

11.11 Additional Information

RTECS: EM6125000 Effects due to ingestion may include: flushing, Nausea, Vomiting, Diarrhea, Contact with skin can cause: Dermatitis, Allergic reactions, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Systemic effects: After absorption: Nausea Vomiting flush of face, neck and arms After long-term exposure to the chemical: Changes in the blood count weakening of the immune system Damage to: Kidney Further data: Other dangerous properties can not be excluded. This substance should be handled with particular care.

12 ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish:

No data available

Toxicity to daphnia and other aquatic:

EC50 - Daphnia magna (Water flea) - 1.2 mg/l - 48 h

Toxicity to algae:

Growth inhibition NOEC - Algae - 0.037 mg/l

Toxicity to bacteria:

EC50 - activated sludge - 153.6 mg/l - 3 h

12.2 Persistence and degradability

Biodegradability Result: 76 % - Readily biodegradable.

12.3 Bioaccumulative potential

No bioaccumulation is to be expected ($\log Pow \leq 4$).

12.4 Mobility in soil

No data available

12.5 Other adverse effects

Discharge into the environment must be avoided.

13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Observe all federal, state and local regulations when disposing of the substance.

Contaminated packaging

Disposal must be made according to official regulations.

14 TRANSPORT INFORMATION

14.1 UN number

ADR/RID: 3077 IMDG: 3077 IATA: 3077

14.2 UN proper shipping name

ADR/RID: DIMETHYL FUMARATE

IMDG: DIMETHYL FUMARATE

IATA-DGR: Dimethyl fumarate

14.3 Transport hazard class(es)

ADR/RID: 9 IMDG: 9 IATA: 9

14.4 Packaging group

ADR/RID: III IMDG: III IATA: III

14.5 Environmental hazards

ADR/RID: yes IMDG Marine pollutant: yes IATA: yes

14.6 Special precautions for user

No data available

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Applicable regulations

Please pay attention to waste disposal and meet the requirements of local regulations.

16. OTHER INFORMATION

Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Dangerous Goods

IATA: International Air Transport Association

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

CAS: Chemical Abstracts Service (division of the American Chemical Society)

Further information

The above safety technical information is for reference only, because many physical and chemical properties are not entirely clear. Please consult information carefully before use and use after confirmation.

Anhui Senrise Technology Co., Ltd. shall not be held liable for any damage resulting from handling or from contact with the above product. More terms of use, see invoice

information for details.

Tel: +86 -400-005-6266 Fax: +86 -0556-5555368 E-mail: Service@3asenrise.com

Add: No.88 Weisan Road, High-Tech Industrial Development Zone, Anqing, Anhui