
Safety Data Sheet

Product Name	Succinic Acid
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Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identification:**Product Description:** Succinic acid**Synonyms:** Butanedioic acid**CAS-No:** 110-15-6**EC-No.:** 203-740-4**Molecular Formula:** C₄H₆O₄

REACH Registration No: A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

1.2. Relevant identified uses of the substance or mixture and uses advised against:**Recommended Use:** Laboratory chemicals, Manufacturing substance**1.3. Details of the supplier of the safety data sheet:**

- **Company** **Finar Limited**
184-186/P, Chacharwadi Vasna,
Sarkhej-Bavla Highway,
Ta.: Sanand, Dist.: Ahmedabad-382110, Gujarat, India.
Web: www.finarchemicals.com
- **E-Mail Address** safety.finar@aceto.com; info.finar@aceto.com

1.4. Emergency Telephone Number:

- For Emergency contact on: +91 - 2717 - 616 717

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SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008

Serious eye damage (Category 1), H318

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2. Label Elements:

Labeling according Regulation (EC) No 1272/2008

Pictogram



Signal Word: Danger

Hazard statements

H318 Causes serious eye damage.

Precautionary statements

P280 Wear eye protection.

Response

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

P313 Get medical advice/ attention.

2.3. Other Hazards:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances: Butanedioic acid

3.2. Mixtures:

Component	CAS-No	EC-No.	Weight %
Butanedioic acid	110-15-6	203-740-4	>95%

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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.

- **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:

Irritation and corrosion, Diarrhoea, Nausea, Vomiting

Risk of serious damage to eyes.

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, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media: For this substance/mixture no limitations of extinguishing agents are given.

5.2. Special hazards arising from the substance or mixture:

Combustible.

Vapours are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

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

5.3. Advice for firefighters:

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Special protective equipment for firefighters

In the event of fire, wear self-contained breathing apparatus.

5.4 Further Information:

Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures:

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: For personal protection see section 8.

6.2. Environmental precautions:

Do not let product enter drains.

6.3. Methods and material for containment and cleaning up:

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4. Reference to other sections:

For disposal see Sections 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling:

Wear personal protective equipment. Ensure adequate ventilation. Avoid dust formation.

Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.

7.2. Conditions for safe storage, including any incompatibilities:

Keep containers tightly closed in a dry, cool and well-ventilated place.

7.3. Specific end use(s):

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. Control parameters:**

Contains no substances with occupational exposure limit values.

8.2. Exposure Controls:

- **Appropriate Engineering Controls:**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

- **Personal Protective Equipment:**

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye & Face Protection-

Tightly fitting safety goggles

Hand 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. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Other Protective Equipment-

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory Protection-

Where risk assessment shows air-purifying respirators are appropriate use a fullface particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Environmental Exposure Controls-

Do not let product enter drains.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties:**

- **Physical State:** Solid
- **Appearance:** White
- **Odor:** Odorless
- **pH:** 2.7 0.1M aq. sol
- **Melting Point:** 185 - 190 °C
- **Ignition Temperature:** No data available
- **Vapor Pressure:** 0.0022 mmHg at 19 °C
- **Relative Density:** No data available
- **Volatility:** No data available
- **Bulk Density:** No data available
- **Auto-Ignition Temperature:** 630 °C
- **Odor Threshold:** No data available
- **Water/Oil Dist. Co eff.:** No data available
- **Ionicity (in Water):** No data available
- **Partition Coefficient n-octanol/water:** No data available
- **Relative Density:** No data available
- **Boiling Point/Range:** 235 °C
- **Decomposition Temperature:** > 235°C
- **Specific Gravity:** 1.56
- **Flash Point:** 206 °C
- **Density:** 1.56 g/cm³ at 20 °C
- **Solubility:** Soluble in water / 58 g/l at 20 °C

9.2. Other information:**Molecular Formula:** C₄H₆O₄**Molecular Weight:** 118.09 g/mol

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SECTION 10: STABILITY AND REACTIVITY**10.1. Reactivity:**

Forms explosive mixtures with air on intense heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

10.2. Chemical stability:

The product is chemically stable under standard ambient conditions (room temperature).

10.3. Possibility of hazardous reactions:

Violent reactions possible with:

Strong Oxidizing agents, bases

10.4. Conditions to avoid:

Strong heating.

10.5. Incompatible materials:

Bases, Oxidizing agents, Reducing agents

10.6. Hazardous decomposition products:

Hazardous decomposition products formed under fire conditions. Carbon oxides

Other decomposition products - No data available

In the event of fire: see section 5

SECTION 11: TOXICOLOGICAL INFORMATION**11.1 Information on toxicological effects:****Acute Oral toxicity**

LD50 Rat: > 8,000 mg/kg

OECD Test Guideline 401

The value is given in analogy to the following substances: Butanedioic acid, sodium salt (1:1)

Symptoms: Nausea, Vomiting, Diarrhoea, Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute inhalation toxicity

LC50 Rat: > 1.306 mg/l; 4 h ; dust/mist

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OECD Test Guideline 403

The value is given in analogy to the following substances: fumaric acid

Symptoms: Possible damages:;, mucosal irritations

Acute dermal toxicity

No data available

Skin corrosion/irritation

Rabbit

Result: No skin irritation

OECD Test Guideline 404

slight irritation

Serious eye damage/eye irritation

Rabbit

Result: Causes serious eye damage.

OECD Test Guideline 405

Causes serious eye damage.

Respiratory or skin sensitization

Local lymph node assay (LLNA) Mouse

Result: negative

Method: OECD Test Guideline 429

Maximisation Test Guinea pig

Result: negative

Method: OECD Test Guideline 406

Germ cell mutagenicity

Genotoxicity in vitro

Ames test

Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

Mutagenicity (mammal cell test):

Result: negative

(IUCLID)

Carcinogenicity

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No data available

Reproductive toxicity

No data available

Teratogenicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information:

Substance which occurs in the human body under physiological conditions.

Other dangerous properties cannot be excluded.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:

Toxicity to fish:

Semi-static test LC50 Danio rerio (zebra fish): > 100 mg/l; 96 h

Analytical monitoring: yes

OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates:

Semi-static test EC50 Daphnia magna (Water flea): > 100 mg/l; 48 h

Analytical monitoring: yes

OECD Test Guideline 202

Toxicity to algae:

Static test ErC50 Pseudokirchneriella subcapitata (green algae): > 100 mg/l; 72 h

Analytical monitoring: yes

OECD Test Guideline 201

Toxicity to bacteria:

Static test EC50 activated sludge: > 300 mg/l; 3 h

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OECD Test Guideline 209

12.2 Persistence and degradability:

Biodegradability

96.55 %; 28 d, aerobic

OECD Test Guideline 301E

Readily biodegradable

Theoretical oxygen demand (ThOD)

1,300 mg/g

(Lit.)

Ratio BOD/ThBOD

BOD5 74 %

(HSDB)

Ratio COD/ThBOD

100 %

(Lit.)

12.3 Bioaccumulate potential:

Partition coefficient: n-octanol/water

log Pow: -0.59

(experimental)

(Lit.) Bioaccumulation is not expected.

Bioaccumulation

Bioconcentration factor (BCF): 3

Does not significantly accumulate in organisms.

12.4 Mobility in soil:

No data available

12.5 Results of PBT and vPvB assessment:

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects:

Additional ecological information

Biological effects:

Harmful effect due to pH shift.

Discharge into the environment must be avoided.

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SECTION 13: Disposal considerations

13.1 Waste treatment methods:

Waste material must be disposed of in accordance with the national and local regulations.

Leave chemicals in original containers. No mixing with other waste.

Handle uncleaned containers like the product itself.

SECTION 14: Transport information

	Land transport (ADR/RID)	Air transport (IATA)	Sea transport (IMDG)
14.1 UN number	Not classified as dangerous in the meaning of transport regulations.		
14.2 Proper shipping name	Not classified as dangerous in the meaning of transport regulations.		
14.3 Class	Not classified as dangerous in the meaning of transport regulations.		
14.4 Packing group	Not classified as dangerous in the meaning of transport regulations.		
14.5 Environmentally hazardous	Not classified as dangerous in the meaning of transport regulations.		
14.6 Special precautions for user	Not classified as dangerous in the meaning of transport regulations.		
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code			
No Data Available			

SECTION 15: Regulatory information

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

National legislation

Storage class 10-13

15.2 Chemical safety assessment:

For this product a chemical safety assessment was not carried out.

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SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H318 Causes serious eye damage.

Training advice

Provide adequate information, instruction and training for operators.

Labelling

Signal Word: **Danger**

Hazard statements

H318 Causes serious eye damage.

Precautionary statements

P280 Wear eye protection.

Response

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

P313 Get medical advice/ attention.

References: Not available

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