

SUCCINIC ACID

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SECTION 1: IDENTIFICATION

1.1 GHS Product identifier:

SUCCINIC ACID
Butanedioic Acid; Amber Acid
CAS: 110-15-6

Other means of identification:

Not relevant

1.2 Recommended use of the chemical and restrictions on use:

Relevant uses: Food acidulant/flavouring agent, pharmaceutical and polymer (biodegradable plastics, polyester resin) intermediate, electroplating and dyeing auxiliary, and general organic chemical synthesis. For industrial/commercial user only.
Uses advised against: All uses not specified in this section or in section 7.3.

1.3 Supplier's details:

SURAJ CHEMICALS
No 92, Govindappa Naicken Street, Shiva Complex, Chennai – 600001, Tamil Nadu, India
Tel: +91 - 7092722822, +91 - 9840284032 / +91 - 44 - 25393652, 42130281
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GST No: 33ACEPV8190L1ZZ

1.4 Emergency phone number:

Emergency Contact No: +91 - 7092722822, +91 - 9840284032

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

GHS:
Classification of this product has been carried out in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Eye Irrit. 2	Eye irritation, Category 2, H319
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2.2 GHS label elements, including precautionary statements:

GHS: Warning

Hazard statements:

Eye Irrit. 2: H319 – Causes serious eye irritation.

Precautionary statements:

P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/eye protection.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists, get medical advice/attention.
P501: Dispose of the contents/containers in accordance with regulations on hazardous waste or packaging and packaging waste, respectively.

2.3 Other hazards which do not result in classification:

Dust may cause mechanical/transient irritation of the respiratory tract. This substance is not identified as a PBT or vPvB substance.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances:

Chemical description: Succinic Acid
In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration
CAS: 110-15-6	Succinic Acid — Eye Irrit. 2: H319 – Warning	≥ 99% (technical/food grade, per current specification sheet)

To obtain more information on the hazards of the substances, consult sections 11, 12 and 16.

3.2 Mixtures:

Non-applicable

SECTION 4: FIRST AID MEASURES

4.1 Description of necessary first-aid measures:

Request medical assistance if symptoms are significant or persist, showing the SDS of this product.

By inhalation:

Remove the person affected from the area of exposure and into fresh air. If irritation or discomfort persists, seek medical attention.

By skin contact:

Remove contaminated clothing. Wash the affected area thoroughly with plenty of water and soap. Seek medical attention if irritation persists.

By eye contact:

Rinse eyes thoroughly with lukewarm water for at least 15 minutes, lifting upper and lower eyelids. Remove contact lenses if present and easy to do. Seek medical attention promptly with the SDS of the product.

By ingestion/aspiration:

Rinse out the mouth with water. Do not induce vomiting. If a significant quantity has been swallowed, seek medical advice, showing this SDS.

4.2 Most important symptoms/effects, acute and delayed:

Acute and delayed effects are indicated in sections 2 and 11.

4.3 Indication of immediate medical attention and special treatment needed, if necessary:

Not relevant – treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media:
Suitable: Water spray/fog, foam, dry chemical powder, carbon dioxide (CO₂)
Unsuitable: High-pressure water jet (may disperse dust)

5.2 Specific hazards arising from the chemical:
Not classified as flammable. Combustion may generate oxides of carbon. Fine dust suspended in air may present a dust-explosion hazard in the presence of an ignition source.

5.3 Special protective actions for fire-fighters:
Evacuate non-essential personnel. Wear self-contained breathing apparatus and full protective clothing in case of significant fire. Cool exposed containers with water spray.

Additional provisions:
Avoid generating or dispersing dust clouds near ignition sources.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:
For non-emergency personnel:
Avoid generating dust. Use the personal protective equipment described in section 8. Ensure adequate ventilation.
For emergency responders:
Wear protective equipment described in section 8. Keep unprotected persons away.

6.2 Environmental precautions:
Avoid large-scale discharge into drains or water courses. Notify the relevant authority in case of a significant spill reaching the environment.

6.3 Methods and materials for containment and cleaning up:
Sweep up and shovel into a suitable, clean, dry, labelled container for reuse or disposal, avoiding dust dispersion.

6.4 Reference to other sections:
See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:
A. General precautions for safe use:
Avoid generating dust. Avoid contact with eyes. Use local exhaust ventilation where dust may be generated during bulk handling.
B. Technical recommendations for the prevention of fires and explosions:
Avoid accumulation of fine dust on surfaces and in equipment. Use properly earthed equipment during bulk transfer to minimise static build-up.
C. Technical recommendations on general occupational hygiene:
Do not eat, drink or smoke in work areas; wash hands after handling.
D. Technical recommendations to prevent environmental risks:
Avoid uncontrolled discharge to drains, soil or water courses. Follow the protective measures given in the exposure controls/personal protection section.

7.2 Conditions for safe storage, including any incompatibilities:
A. Specific storage requirements:

Storage temperature	Cool, ambient conditions – typically below 30°C
Recommended shelf life	Typically 24 – 36 months from date of manufacture in original sealed packaging
Container	Original, tightly closed, moisture-proof container/bag

B. General conditions for storage:
Store in a cool, dry, well-ventilated area away from strong oxidisers and strong bases. Keep container tightly closed when not in use. For additional information see subsection 10.5.

7.3 Specific end use(s):
Except for the instructions already specified, it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters:
No specific occupational exposure limit (OEL) has been established for this substance under the Factories Act, 1948 (as amended). As general nuisance-dust guidance, an airborne exposure limit of 10 mg/m³ (inhalable fraction, 8-hr TWA) is recommended as good practice.

8.2 Appropriate engineering controls:
Use local exhaust ventilation where dust may be generated during bulk handling/transfer, in addition to individual protective equipment (PPE) as needed.

B. Respiratory protection:
Dust/particulate filter mask (e.g. FFP1/FFP2) recommended during prolonged bulk handling or where dust levels are elevated.

C. Specific protection for the hands:
Protective gloves recommended. Replace at any sign of damage.

D. Eye and face protection:
Safety glasses/goggles against dust and splash.

E. Bodily protection:
Standard clean work clothing; safety footwear in bulk-handling areas.

F. Additional emergency measures:
Eyewash station recommended in areas of regular bulk handling.

Environmental exposure controls:
Avoid environmental spillage of both the product and its container.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance	
Physical state at 20°C	Solid
Appearance	Crystalline powder / granules
Color	White
Odor	Odourless
Odour threshold	Not established for this grade
Volatility	
Boiling point at atmospheric pressure	235°C (decomposes)
Vapour pressure at 20°C	Not relevant *

Evaporation rate	Not relevant *
Product Description	
Molecular formula	C4H6O4
Molecular weight	118.09 g/mol
Density / Relative density at 20°C	1.56 g/cm³
pH (1% aqueous solution)	≈ 3.2
Partition coefficient n-octanol/water (log Pow)	-0.59
Solubility in water at 20°C	83 g/L at 25°C
Melting point/freezing point	185 – 190°C
Flammability	
Flash Point	Non-applicable (solid)
Flammability (solid, gas)	Not classified as flammable
Autoignition temperature	Not established for this grade
Lower / Upper flammability limit	Not relevant *

* Not relevant due to the nature of the product, not providing information on the properties of its hazards.

9.2 Other information:

Explosive properties	Not classified; fine dust may present a combustible-dust hazard under specific conditions
Oxidising properties	Not classified
Corrosive to metals	Not relevant *
Decomposition temperature	≈ 235°C

SECTION 10: STABILITY AND REACTIVITY

- 10.1 Reactivity:**
May react with strong oxidising agents and strong bases, generating heat. Not reactive under normal conditions of storage, handling and use.
- 10.2 Chemical stability:**
Chemically stable under the indicated conditions of storage, handling and use.
- 10.3 Possibility of hazardous reactions:**
Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.
- 10.4 Conditions to avoid:**

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	Not applicable	Avoid prolonged exposure to high temperature	Avoid prolonged direct exposure	Avoid contact with moisture

- 10.5 Incompatible materials:**
- | Strong Oxidisers | Strong Bases | Moisture |
|------------------|--|--------------------------|
| Avoid contact | Avoid contact (neutralisation reaction, heat generation) | Avoid prolonged exposure |

- 10.6 Hazardous decomposition products:**
Thermal decomposition at high temperature may generate oxides of carbon.

SECTION 11: TOXICOLOGICAL INFORMATION

- 11.1 Information on toxicological effects:**
In case of exposure that is repetitive, prolonged, or at concentrations higher than the recommended occupational exposure limits, adverse health effects may result depending on the means of exposure:
- A. Ingestion (acute effect):**
Acute toxicity classification criteria are not met based on available data. Ingestion of large quantities may cause gastrointestinal discomfort.
- B. Inhalation (acute effect):**
Inhalation of dust may cause mild, transient irritation of the respiratory tract.
- C. Contact with skin and eyes (acute effect):**
Skin contact is not expected to cause significant irritation. Eye contact causes serious eye irritation (H319).
- D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity):**
Classification criteria for carcinogenicity, mutagenicity and reproductive toxicity are not met based on available data. IARC: Not listed.
- E. Sensitizing effects:**
Classification criteria for respiratory or skin sensitisation are not met based on available data.
- F. Specific target organ toxicity (STOT) – single exposure:**
Classification criteria are not met based on available data.
- G. Specific target organ toxicity (STOT) – repeated exposure:**
Classification criteria are not met based on available data.
- H. Aspiration hazard:**
Classification criteria are not met based on available data.

Product-specific toxicological information:

Identification	Acute Toxicity	Genus
Succinic Acid CAS: 110-15-6	LD50 oral: >2,000 mg/kg	Rat

SECTION 12: ECOLOGICAL INFORMATION

Not classified as hazardous to the aquatic environment, based on available data.

- 12.1 Toxicity:**
- | Acute Toxicity | Species | Genus |
|--|----------------|-------|
| LC50: >100 mg/L (96h) (typical value – refer to current specification sheet) | Non-applicable | Fish |
- 12.2 Persistence and degradability:**
Readily biodegradable under aerobic conditions.

12.3 Bioaccumulative potential:
Not expected to bioaccumulate (low log Pow).

12.4 Mobility in soil:

Koc	Henry	Dry Soil	Moist Soil
Low (high water solubility)	Not relevant	No data	No data

12.5 Results of PBT and vPvB assessment:
This substance does not meet the PBT/vPvB criteria.

12.6 Other adverse effects:
Not described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Disposal methods:
Neutralise with a suitable alkaline material if required, then dispose of in accordance with local/national regulations on waste management. Avoid discharge of concentrated product into drains or water courses. Empty containers may be recycled or disposed of as general waste after ensuring they are empty.
Refer to national and local regulations on waste management.

SECTION 14: TRANSPORT INFORMATION

Transport of dangerous goods by land (ADR 2023 / RID 2023):

14.1 UN number	Not assigned – non-dangerous goods
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	N/A
14.5 Environmental hazard	No
14.6 Special precautions for user	Non-hazardous for transport; physico-chemical properties: see section 9
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by sea (IMDG 41-22):

14.1 UN number	Not assigned – non-dangerous goods
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	N/A
14.5 Marine pollutant	No
14.6 Special precautions for user	Non-hazardous for transport
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by air (IATA/ICAO 2024):

14.1 UN number	Not assigned – non-dangerous goods
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	N/A
14.5 Environmental hazard	No
14.6 Special precautions for user	Non-hazardous for transport
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations specific for the product in question:
It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of local circumstances, in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Other legislation:
The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)
Food Safety and Standards Act, 2006, and Rules/Regulations made thereunder (where applicable to food/pharma-grade use)

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:
This safety data sheet has been designed in accordance with Annex 4 – Guidance on the preparation of Safety Data Sheets of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Texts of the legislative phrases mentioned in sections 2 and 3:
H319: Causes serious eye irritation.
The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3.

Advice related to training:
Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:
Published GHS classification and physicochemical reference data for this substance.

Abbreviations and acronyms:
ADR: European agreement concerning the international carriage of dangerous goods by road | IMDG: International maritime dangerous goods code | IATA: International Air Transport Association | ICAO: International Civil Aviation Organisation | LD50: Lethal Dose 50 | LC50: Lethal Concentration 50 | Log-POW: Octanol-water partition coefficient | Koc: Partition coefficient of organic carbon | IARC: International Agency for Research on Cancer

The information contained in this safety data sheet is based on sources, technical knowledge and current legislation, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product; it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within Suraj Chemicals' awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.