

Printing date 01/16/2024

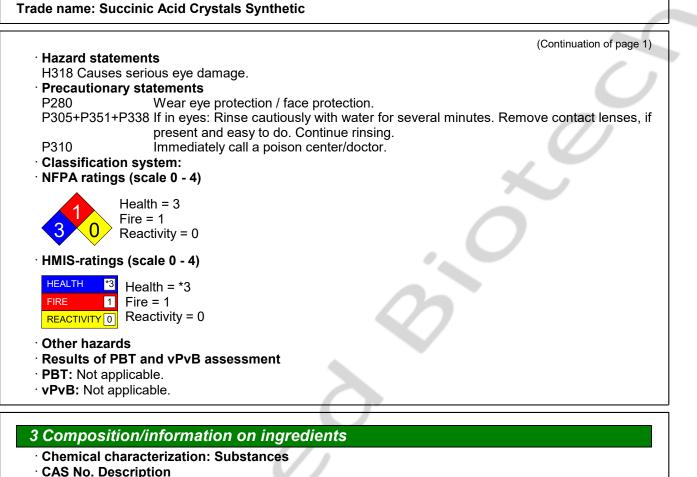
Reviewed on 05/04/2023





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- CAS: 110-15-6 Succinic acid
- · Identification number(s)
- EC number: 203-740-4

4 First-aid measures

- Description of first aid measures
- · After inhalation: Supply fresh air; consult doctor in case of complaints.
- · After skin contact: Generally the product does not irritate the skin.
- After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- · After swallowing: If symptoms persist consult doctor.
- Information for doctor:
- · Most important symptoms and effects, both acute and delayed No further relevant information available.
- · Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

- Extinguishing media
- Suitable extinguishing agents:
- CO2, powder or alcoholresistant foam.

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.



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Use fire fighting measures that suit the environment.

- Special hazards arising from the substance or mixture No further relevant information available.
- · Advice for firefighters
- · Protective equipment: No special measures required.
- Additional information

Cool endangered receptacles with water spray.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away.
- Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- Methods and material for containment and cleaning up: Use neutralizing agent.

Dispose contaminated material as waste according to section 13.

- Reference to other sections
 See Section 7 for information on safe handling.
 See Section 8 for information on personal protection equipment.
 See Section 13 for disposal information.
- Protective Action Criteria for Chemicals

· PAC-1:		
6.8 mg/m³		
· PAC-2:		
75 mg/m³	<i>A</i> .	
· PAC-3:		
450 mg/m³		

7 Handling and storage

· Handling:

- Precautions for safe handling Thorough dedusting.
- · Information about protection against explosions and fires: No special measures required.
- · Conditions for safe storage, including any incompatibilities
- · Storage:
- Requirements to be met by storerooms and receptacles: No special requirements.

Please refer to the product specification and/or Certificate of Analysis for product storage requirements. • Information about storage in one common storage facility: Not required.

- Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep receptacle tightly sealed.

• Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

• Additional information about design of technical systems: No further data; see section 7.

· Control parameters

• Components with limit values that require monitoring at the workplace: Not required.

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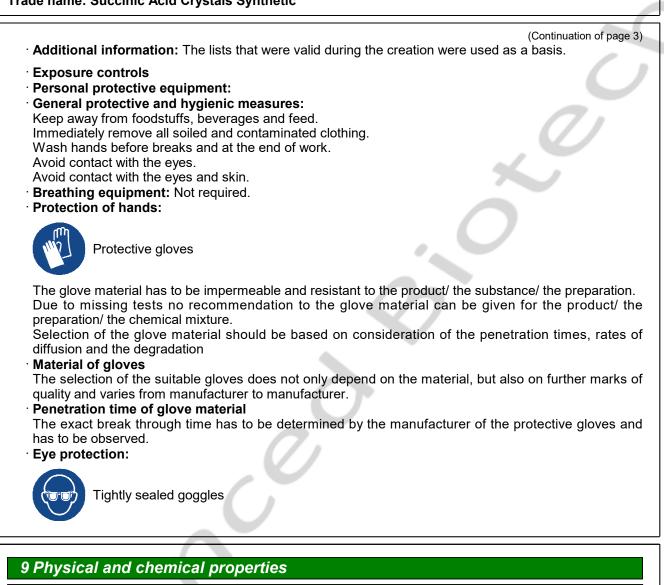
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Safety Data Sheet

General Information	Molecular Weight: 118.09 g/mol	
Appearance:		
Form:	Solid	
Color:	According to product specification	
Odor:	According to product specification	
Odor threshold:	Not determined.	
pH-value:	Not applicable.	
Change in condition		
Melting point/Melting range:	184 °C (363.2 °F)	
Boiling point/Boiling range:	235 °C (455 °F)	
Flash point:	Not applicable.	
Flammability (solid, gaseous):	Product is not flammable.	



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Auto igniting:	630 °C (1,166 °F)
Decomposition temperature:	Not determined.
Ignition temperature:	Not determined.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits: Lower: Upper:	Not determined. Not determined.
Vapor pressure:	Not applicable.
Density at 20 °C (68 °F): Relative density Vapor density Evaporation rate	0.6 g/cm³ (5.007 lbs/gal) Not determined. Not applicable. Not applicable.
Solubility in / Miscibility with Water at 20 °C (68 °F):	70 g/l
Partition coefficient (n-octanol/wa	ater): Not determined.
Viscosity: Dynamic: Kinematic: VOC content:	Not applicable. Not applicable. 0.00 %
Solids content:	100.0 %
Other information	No further relevant information available.

10 Stability and reactivity

· Reactivity No further relevant information available.

- · Chemical stability
- Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

- Possibility of hazardous reactions No dangerous reactions known.
- · Conditions to avoid No further relevant information available.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

· Information on toxicological effects

• Acute toxicity:

· LD/LC50 values that are relevant for classification:

CAS: 110-15-6 Succinic acid

Oral LD50 2,260 mg/kg (ATE)

2,260 mg/kg (rat)

· Primary irritant effect:

· on the skin: No irritant effect.

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- **on the eye:** Strong irritant with the danger of severe eye injury.
- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

Substance is not listed.

• NTP (National Toxicology Program)

Substance is not listed.

· OSHA-Ca (Occupational Safety & Health Administration)

Substance is not listed.

12 Ecological information

- · Toxicity
- Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes:

Water hazard class 1 (Assessment by list): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

- Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- · vPvB: Not applicable.
- Other adverse effects No further relevant information available.

13 Disposal considerations

- · Waste treatment methods
- · Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- Recommendation: Disposal must be made according to official regulations.

· UN-Number		
· DOT, ADN, IMDG, IATA	Not Regulated	
· UN proper shipping name		
· DOT, ADN, IMDG, IĂTA	Not Regulated	



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Transport hazard class(es)	
DOT, ADN, IMDG, IATA Class	Not Regulated
Packing group DOT, IMDG, IATA	Not Regulated
Environmental hazards: Marine pollutant:	No
Special precautions for user	Not applicable.
Transport in bulk according to Annex MARPOL73/78 and the IBC Code	I ll of Not applicable.
Transport/Additional information:	Not dangerous according to the above specifications.
UN "Model Regulation":	Not Regulated

15 Regulatory information

Section 355 (extremely hazardous substances):	
Substance is not listed.	
Section 313 (Specific toxic chemical listings):	
Substance is not listed.	
TSCA (Toxic Substances Control Act):	
ACTIVE	
Hazardous Air Pollutants	
Substance is not listed.	
Proposition 65	
Chemicals known to cause cancer:	
Substance is not listed.	
Chemicals known to cause reproductive toxicity for females:	
Substance is not listed.	
Chemicals known to cause reproductive toxicity for males:	
Substance is not listed.	
Chemicals known to cause developmental toxicity:	
Substance is not listed.	
Carcinogenic categories	
EPA (Environmental Protection Agency)	
Substance is not listed.	
TLV (Threshold Limit Value)	
Substance is not listed.	

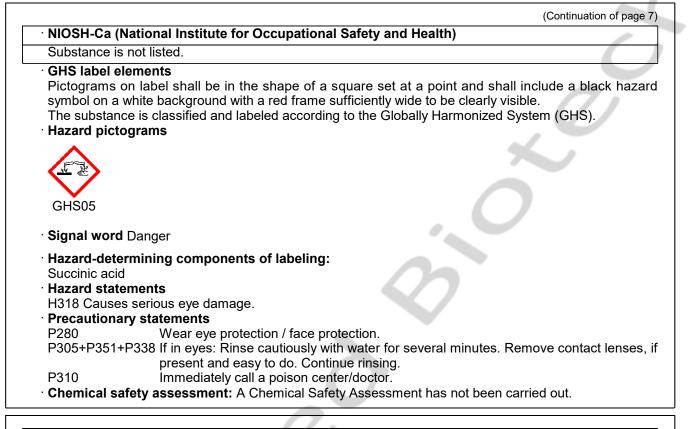


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16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- · Department issuing SDS: Product Safety Department
- · Contact: Product Safety Department productsafety@adv-bio.com · Date of preparation / last revision 01/16/2024 Abbreviations and acronyms: ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road) IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation IATA: International Air Transport Association EINECS: European Inventory of Existing Commercial Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) VOC: Volatile Organic Compounds (USA, EU) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety **OSHA: Occupational Safety & Health** TLV: Threshold Limit Value PEL: Permissible Exposure Limit **REL: Recommended Exposure Limit** Eye Damage 1: Serious eye damage/eye irritation - Category 1