

Material Safety Data Sheet

Product name	Itaconic acid
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1. Identification of the substance/mixture and of the company/undertaking

1.1. Product name	Itaconic acid
1.2. CAS-No.	97-65-4
1.3. Relevant identified uses of the substance or mixture and uses advised against	
Identified uses	Laboratory chemicals, Synthesis of substances
1.4. Details of the supplier of the safety data sheet	
Company	Glory Global CO.,LTD
Address	C-208, 10, Nowon-ro 15-gil, Nowon-gu, Seoul, Korea
Emergency Phone	+82 2 6223 0862

2. Hazards identification

2.1. Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Serious eye damage (Category 1), H318
Short-term (acute) aquatic hazard (Category 3), H402
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2. GHS Label elements, including precautionary statements

Pictogram

Not a hazardous substance or mixture.



Signal word

Danger

Hazard statement(s)

H318 Causes serious eye damage.
H402 Harmful to aquatic life.

Precautionary statement(s)

P273 Avoid release to the environment.
P280 Wear eye protection/ face protection.
P305 + P351 + P338 +
P310
IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P501 Dispose of contents/ container to an approved waste disposal plant.

2.3. Hazards not otherwise classified (HNOC) or not covered by GHS

none

3. Composition/information on ingredients

3.1. Substances

Synonyms	Methylenesuccinic acid
Formula	C5H6O4
Molecular weight	130.10 g/mol
CAS-No.	97-65-4
EC No.	202-599-6

Component	Classification	Concentration
Itaconic acid	Eye Dam. 1: Aquatic Acute 3: H318, H402	≤ 100 %

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

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
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

The most important known symptoms and effects are described in the labelling (see section

4.3. Indication of any immediate medical attention and special treatment needed

No data available

5. Firefighting measures

5.1. Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
5.2. Special hazards arising from the substance or mixture	Carbon oxides
5.3. Advice for firefighters	Wear self-contained breathing apparatus for firefighting if necessary.
5.4. Further information	No data available
6. Accidental release measures	
6.1. Personal precautions, protective equipment and emergency procedures	Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.
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	For disposal see section 13.
7. Handling and storage	
7.1. Precautions for safe handling	Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.
7.2. Conditions for safe storage, including any incompatibilities	Keep container tightly closed in a dry and well-ventilated place. Moisture sensitive. Storage class (TRGS 510): 13: Non Combustible Solids
7.3. Specific end use(s)	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated
8. Exposure controls/personal protection	
8.1. Control parameters	
Components with workplace control parameters	Contains no substances with occupational exposure limit values.
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	
a) Eye/face protection	Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
b) 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. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Full contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M) Splash contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers.
c) Body Protection	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.
d) 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).
e) Control of environmental exposure	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
9. Physical and chemical properties	
9.1. Information on basic physical and chemical properties	
Appearance	Form: solid
Odour	No data available
Odour Threshold	No data available

pH	2 at 10 g/l at 20 °C (68 °F)
Melting point/freezing point	Melting point/range: 165 – 168 °C (329 – 334 °F) – lit.
Initial boiling point and boiling range	268 °C 514 °F – (decomposition) 268 °C (514 °F) – (decomposition)
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	The product is not flammable. – Flammability (solids)
Upper/lower flammability or explosive limits	No data available
Vapour pressure	0.000 hPa at 20 °C (68 °F) – OECD Test Guideline 104 0.000 hPa at 40 °C(104 °F) – OECD Test Guideline 104
Vapour density	No data available
Relative density	1.573 g/cm ³ at 25 °C (77 °F) – lit.
Water solubility	77.49 g/l at 20 °C (68 °F) – OECD Test Guideline 105
Partition coefficient: n-octanol/water	log Pow: –0.4 at 25 °C (77 °F) – OECD Test Guideline 107 – Bioaccumulation is not expected.. (IUCLID)
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available
9.2. Other safety information	No data available

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	acids, Acid chlorides, Acid anhydrides, Oxidizing agents, Chloroformates
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

11. Toxicological information

11.1. Information on toxicological effects	
Acute toxicity	LD50 Oral – Rat – > 2,000 mg/kg Remarks: (External MSDS)
Skin corrosion/irritation	Skin – Rabbit Result: No skin irritation Remarks: (IUCLID)
Serious eye damage/eye irritation	Eyes – Rabbit Result: Eye irritation Remarks: (IUCLID) Risk of serious damage to eyes. Eyes – Rabbit Result: Causes serious eye damage. (OECD Test Guideline 405)
Respiratory or skin sensitisation	Sensitisation test: – Guinea pig Result: negative Remarks: (IUCLID)
Germ cell mutagenicity	Ames test Result: negative (IUCLID) Result: negative (IUCLID)
Carcinogenicity	

- a) IARC: 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.
- b) NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- c) OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

Reproductive toxicity

Specific target organ toxicity – single exposure Acute oral toxicity – Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute inhalation toxicity – Possible damages: mucosal irritations

Specific target organ toxicity – repeated exposure No data available

Aspiration hazard No data available

Additional Information RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

12. Ecological information

12.1. Toxicity

Toxicity to fish LC50 – *Oncorhynchus mykiss* (rainbow trout) – 190 mg/l – 24 h
Remarks: (IUCLID)

Toxicity to daphnia and other aquatic invertebrates EC50 – *Daphnia magna* (Water flea) – 240 mg/l – 24 h
Remarks: (IUCLID)

Toxicity to algae IC50 – *Desmodesmus subspicatus* (green algae) – 47 mg/l – 72 h
Remarks: (IUCLID)

12.2. Persistence and degradability

Biodegradability aerobic – Exposure time 28 d
Result: 100 % – Readily biodegradable.
(OECD Test Guideline 301B)

12.3. Bioaccumulative potential

No data available

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

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life.
Discharge into the environment must be avoided.

13. Disposal considerations

13.1 Waste treatment methods

Product Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging Dispose of as unused product.

14. Transport information

14.1. DOT (US) Not dangerous goods

14.2. IMDG Not dangerous goods

14.3. IATA Not dangerous goods

15. Regulatory information

15.1. SARA 302 Components No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

15.2. SARA 313 Components This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

15.3. SARA 311/312 Hazards Acute Health Hazard

15.4. Massachusetts Right To Know Components No components are subject to the Massachusetts Right to Know Act.

15.5. Pennsylvania Right To Know Components

Itaconic acid	CAS-No. 97-65-4	Revision Date
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15.6. New Jersey Right To Know Components

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16. Other information

16.1. Further information

