


# SAFETY DATA SHEET

## GLUTARIC ACID

### SECTION 1: Identification of the substance/mixture and of the company/undertaking Trade name:

<b>1.1 Product identifier:</b>	
<b>CAS Number:</b>	110-94-1
<b>EC number:</b>	203-823-4
<b>1.2 SYNONYMS:</b>	<ul style="list-style-type: none"> <li>• Pentanedioic acid</li> <li>• 1,5-Pentanedioic acid</li> <li>• Glutarate</li> <li>• Butane-1,4-dicarboxylic acid</li> <li>• Pentane-1,5-dicarboxylic acid</li> </ul>

### SECTION 2: Hazards identification:

<b>2.1 Classification of the substance or mixture:</b>	Classification according to Regulation (EC) No 1272/2008 The substance is classified according to the CLP regulation.
<b>2.2 Label elements:</b>	Labelling according to Regulation (EC) No 1272/2008 Flammable liquids, (Category 2) Serious eye damage, (Category 1) Skin corrosion, (Category 1A)
<b>Hazard Pictograms:</b>	
<b>Signal Word:</b>	Danger
<b>Hazard statements:</b>	<b>H319:</b> Causes serious eye irritation. <b>H315:</b> Causes skin irritation.
<b>Precautionary Statements:</b>	<b>P264:</b> Wash thoroughly after handling. <b>P280:</b> Wear protective gloves/protective clothing/eye protection/face protection. <b>P305+P351+P338:</b> IF IN EYES: Rinse cautiously with water for several

	<p>minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p><b>P302+P352:</b> IF ON SKIN: Wash with plenty of water.</p> <p><b>P321:</b> Specific treatment (see ... on this label).</p> <p><b>P332+P313:</b> If skin irritation occurs: Get medical advice/attention.</p> <p><b>P362:</b> Take off contaminated clothing and wash it before reuse.</p> <p><b>P501:</b> Dispose of contents/ container in accordance with local/regional/ national/ international regulations (this would apply for large-scale disposal).</p>
<b>2.3 Other hazards:</b>	
<b>Inhalation:</b>	may cause respiratory irritation, coughing, or difficulty breathing.
<b>Ingestion:</b>	may cause gastrointestinal irritation, nausea, vomiting, and abdominal pain.
<b>Skin Contact:</b>	may cause irritation, redness, and discomfort.
<b>Eye contact:</b>	may cause severe irritation, redness, and possible damage to the eyes.
<b>Chronic Exposure:</b>	may cause long-term skin irritation, respiratory issues, and potential damage to the eyes or mucous membranes.
<b>Aggravation of pre-existing conditions:</b>	may aggravate pre-existing conditions such as respiratory disorders (e.g., asthma) or skin conditions (e.g., dermatitis), may occur with exposure.

## SECTION 3: Composition/information on ingredients

<b>3.1 Chemical characterisation:</b>	Substances
<b>CAS No:</b>	Description: 110-94-1 GLUTARIC ACID
<b>Identification number(s):</b>	EC number: 203-823-4

## SECTION 4: First aid measures

<b>4.1 Description of first aid measures</b>	
<b>General information:</b>	
<b>After inhalation:</b>	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
<b>After skin contact:</b>	Remove contaminated clothing. Wash with soap and water. Consult a physician.
<b>After eye contact:</b>	Immediately flush eyes with plenty of water for at least 15 minutes. consult a physician.
<b>After swallowing:</b>	Rinse mouth with water. Immediately after ingestion. Never give anything by mouth to an unconscious person. Do not induce vomiting. Consult a physician.
<b>4.2 Most important symptoms and effects, both acute and delayed:</b>	The most important symptoms may include acute eye and skin irritation, respiratory discomfort, and gastrointestinal distress, with potential delayed effects such as prolonged skin irritation or respiratory sensitivity.
<b>4.3 Indication of any immediate medical attention and special treatment needed:</b>	Treat symptomatically.

## SECTION 5: Firefighting measures

<b>5.1 Extinguishing media:</b>	Carbon dioxide. Water spray. Alcohol-resistant foam.
<b>5.2 Special hazards arising from the substance or mixture:</b>	Can release carbon dioxide when decomposed or heated.
<b>5.3 Advice for firefighters:</b>	Wear fully protective suit, safety glasses and respiratory device. Cool tanks/drums with water spray/remove them into safety.
<b>5.4 further information:</b>	no data available

## SECTION 6: Accidental release measures

<b>6.1 Personal precautions, protective equipment and emergency procedures:</b>	Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Avoid dust accumulation. Seek medical attention.
<b>6.2 Environmental precautions:</b>	Do not enter this chemical into drains.
<b>6.3 Methods and material for containment and cleaning up:</b>	Take up spill into absorbent material, e.g.: sand, earth, vermiculite, powdered limestone. Scoop absorbed substance into closing containers. Spill must not return in its original container. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

## SECTION 7: Handling and storage

<b>7.1 Precautions for safe handling:</b>	For use in are with adequate ventilation. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material Do not use in confined spaces. Electrostatic discharge protection. Minimize dust generation and accumulation. Avoid ingestion and inhalation.
<b>7.2 Conditions for safe storage, including any incompatibilities:</b>	Store in original containers. Keep containers securely sealed Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Store in a dry and dark area.
<b>Requirements to be met by storerooms and receptacles:</b>	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
<b>7.3 Specific end uses:</b>	no data available

## SECTION 8: Exposure controls/personal protection

<b>8.1 Control parameters</b>	
<b>Additional information about design of technical facilities:</b>	A system of local and general exhaust is recommended.
<b>8.2 Exposure controls</b>	
<b>Appropriate engineering controls</b>	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
<b>Personal protective equipment:</b>	Dust respirator, protective masks, wearing anti chemical gloves, rubber gloves, etc.

<b>General protective and hygienic measures:</b>	Eyes, body and hand protection, maintain indoor air unobstructed. Wear protective equipment.
	<b>Respiratory protection:</b> Required.
<b>Protection of hands:</b>	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. Wash and dry hands.
	<b>Eye protection:</b> Required
<b>Protection of Body:</b>	Complete suit protecting against chemicals, Flame retardant antistatic protective clothing.

## SECTION 9: Physical and chemical properties

<b>9.1 Information on basic physical and chemical properties</b> <b>General Information</b>	
<b>Appearance: Form:</b>	Crystalline solid
<b>Colour:</b>	White
<b>Odour:</b>	Slight characteristic odor
<b>pH-value:</b>	2.5
<b>Melting point/Melting range:</b>	98°C
<b>Boiling point/Boiling range:</b>	235°C
<b>Flammability (solid, gaseous):</b>	Combustible
<b>Ignition temperature:</b>	430°C
<b>Decomposition temperature:</b>	200°C
<b>Self-igniting:</b>	None
<b>Flash point:</b>	142°C
<b>Danger of explosion:</b>	None
<b>Explosion limits: Lower:</b>	Not determined
<b>Explosion limits: Upper:</b>	Not determined
<b>Vapour pressure:</b>	0.004 mmHg at 25°C

<b>Density at 20 °C:</b>	1.27 g/cm <sup>3</sup>
<b>Relative density:</b>	1.27
<b>Vapour density:</b>	No data available
<b>Evaporation rate:</b>	No data available
<b>Solubility in / Miscibility with- water at 20 °C:</b>	Readily soluble
<b>Partition coefficient:(n- octanol/water)</b>	-0.88
<b>Viscosity:</b>	Not determined

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	No reaction under normal conditions.
<b>10.2 Chemical stability</b>	This chemical is stable under storage conditions.
<b>10.3 Possibility of hazardous reactions</b>	Can undergo exothermic reaction in presence of strong oxidizing agents.
<b>10.4 Conditions to avoid</b>	Heat, open flames.
<b>10.5 Incompatible materials</b>	Strong oxidizing agents, Strong bases, reactive metals.
<b>10.6 Hazardous decomposition products</b>	Carbon monoxide, carbon dioxide.

## SECTION 11: Toxicological information

<b>11.1 Information on toxicological effects</b>	
<b>Acute Toxicity:</b>	<b>LD50</b> (Oral, Rat): 6000 mg/kg <b>LD50</b> (Dermal, Rabbit): no data available <b>LC50</b> (Inhalation Rat): no data available
<b>Skin corrosion/Irritation:</b>	Causes skin irritation.
<b>Serious eye damage/irritation:</b>	Causes serious eye damage
<b>Respiratory damage/irritation:</b>	No data available
<b>Ingestion:</b>	No data available

<b>Germ cell mutagenicity:</b>	No data available
<b>Carcinogenicity:</b>	No data available
<b>Reproductive toxicity:</b>	No data available
<b>Specific target organ toxicity - single exposure:</b>	No data available
<b>Specific target organ toxicity - repeated exposure:</b>	No data available
<b>Aspiration hazard:</b>	No data available
<b>Signs and Symptoms of Exposure:</b>	Refer section 2.3
<b>11.2 Additional toxicological information</b>	
<b>Biodegradability:</b>	Readily Biodegradable

## SECTION 12: Ecological information

<b>12.1 Toxicity Aquatic toxicity:</b>	LC50(fish): no data available EC50(daphnia): 6.840 mg/l (48 hr) EC50(algae): 738 mg/l (72 hr)
<b>12.2 Persistence and degradability:</b>	Readily Biodegradable
<b>12.3 Bioaccumulative potential:</b>	Not bioaccumulative
<b>12.4 Mobility in soil:</b>	High mobility
<b>12.5 Other adverse effects:</b>	No data available

## SECTION 13: Disposal considerations

<b>13.1 Waste treatment methods</b>	
<b>Uncleaned packaging Recommendation:</b>	dispose of in accordance with local hazardous waste regulations
<b>Recommended cleansing agents:</b>	Water, Mild alkaline solutions, Soapy water, Acid-neutralizing agents.



## SECTION 14: Transport information

<b>14.1 UN-Number • ADR, ADN, IMDG, IATA:</b>	3261
<b>14.2 UN proper shipping name • ADR, ADN, IMDG, IATA:</b>	GLUTARIC ACID
<b>14.3 Transport hazard class(es) • ADR, ADN, IMDG, IATA :</b>	8
<b>14.4 Packing group • ADR, IMDG, IATA:</b>	1
<b>14.5 Environmental hazards:</b>	None
<b>14.6 Special precautions for user:</b>	Handle responsibly.

## SECTION 15: Regulatory information

<b>15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Directive 2012/18/EU</b>	Directive 2012/18/EU, under that this substance is not classified in listed substance
<b>Named dangerous substances:</b>	This substance is not listed in the annex 1 to the directive.
<b>15.2 Chemical safety assessment:</b>	Chemical assessment has been carried out under REACH regulation.

## SECTION 16: Other information

The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information.

However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.