



# SAFETY DATA SHEET

## 1. CHEMICAL IDENTIFICATION AND COMPANY INFORMATION

PRODUCT NAME: L-Glutamic Acid  
PRODUCT NUMBER: G399  
COMPANY INFO: *PhytoTechnology Laboratories*®  
PO Box 12205, Shawnee, KS 66282-2205  
Phone: 1-888-749-8682 or 1-913-341-5343; Fax: 1-888-449-8682 or 1-913-341-5442  
www.phytotechlab.com

EMERGENCY PHONE NUMBER: 1-800-535-5053 - US Only  
1-352-323-3500 - International

RECOMMENDED USE: For Research Use Only

RESTRICTIONS ON USE: Products sold by *PhytoTechnology Laboratories*® are intended for research and laboratory use only. Products are not to be used as human or animal therapeutics, cosmetics, agricultural or pesticidal products, food additives, or as household chemicals.

## 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Not a hazardous substance or mixture.

GHS Label elements, including hazard and precautionary statements:

Not a hazardous substance or mixture.

Hazards not otherwise classified (HNOC) or not covered by GHS - None

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: (S)-2-Aminopentanedioic Acid  
CAS No.: 56-86-0  
Formula:  $C_5H_9NO_4$   
Molecular Weight: 147.13 g/mol  
EC No.: 200-293-7

| Ingredient      | CAS Number | Percent | Hazardous                                       |
|-----------------|------------|---------|---|
| L-Glutamic Acid | 56-86-0    | >98%    | No exposure limits established by OSHA or ACGIH |

## 4. FIRST AID MEASURES

General Advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

| Route of Entry | Symptoms                                  | First Aid Procedures  |
|----------------|---|---|
| Ingestion      | May cause irritation if swallowed         | If swallowed, wash out mouth with water. Never give anything by mouth to an unconscious person. <b>Get medical attention.</b>   |
| Inhalation     | May cause irritation to respiratory tract | Safely remove victim to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway and give oxygen. <b>Get medical attention.</b> |

|              |   |  |
|--------------|---|--|
| Eye Contact  | Direct contact may cause irritation. May cause redness, tearing, or blurred vision. | Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. <b>Get medical attention if irritation persists.</b> |
| Skin Contact | Irritating. May cause reddening, itching or inflammation.                           | Wash area thoroughly with soap and water. Remove and wash contaminated clothing. <b>Get medical attention if irritation persists.</b>  |

Most Important Symptoms or Effects, Both Acute and Delayed:

See section 2 and/or section 11

Recommendation for Immediate Medical Care and Special Treatment Needed:

No data available

## 5. FIRE FIGHTING MEASURES

|   |   |
|---|---|
| Suitable Extinguishing Media:                                 | Water spray, carbon dioxide, dry chemical powder, or appropriate foam. Use extinguishing media suitable for surrounding fire.                                       |
| Special Protective Equipment and Precaution for Firefighters: | In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus. Evacuate the area and fight fire from a safe distance. |
| Hazardous Combustion Products:                                | May emit toxic fumes under fire conditions.   |
| Toxic Gases Produced:   | Carbon monoxide, carbon dioxide, nitrogen oxides  |

## 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Use personal protection recommended in Section 8. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation, especially in confined areas. Evacuate personnel to safe areas. Avoid breathing dust.

|                                    |   |
|------------------------------------|---|
| Environmental Precautions:         | Prevent further leakage or spillage if safe to do so. Do not let product enter drains.  |
| Method of Containment and Cleanup: | Wear suitable protective clothing. Avoid dust formation. Carefully sweep up and remove. Place material in a dry container and cover. Remove from the area. Flush spill area with water. Do not let products enter drains. |

## 7. HANDLING AND STORAGE

|                                  |  |
|----------------------------------|--|
| Precaution for Safe Handling:    | Avoid contact with skin and eyes. Avoid dust formation and aerosols. Avoid incompatible substances. Wash thoroughly after use. |
| Conditions for Safe Storage:     | Keep in a tightly closed container and store in a cool, dry, and well-ventilated area.   |
| Incompatibilities:               | Strong oxidizing agents  |
| Recommended Storage Temperature: | Room Temperature   |

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

|  |  |
|--|--|
| OSHA's Permissible Exposure Limits (PELs): | No data available  |
| Threshold Limit Values (TLVs):             | No data available  |
| Engineering Controls:                      | Handle in accordance to general industrial hygiene and safety practice.  |
| Personal Protective Equipment (PPE):       |  |
| Eye/Face Protection:                       | Chemical safety glasses or goggles. Have eye-washing facilities readily available where eye contact can occur. |
| Skin Protection:                           | Protective gloves  |
| Body Protection:                           | Lab coat   |

Respiratory Protection: Respiratory protection is not required.  
Use N95 (US) or type P1 (EN 143) dust mask where dust level is nuisance.  
A NIOSH/MSHA approved air purifying respirator is recommended where airborne concentrations are expected to exceed exposure limits. Protection provided by purifying respirators is limited.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White to off-white powder  
pH: No data available  
Solubility: Soluble in Water  
Melting Point: 205 C (Dec)  
Vapor Density: No data available  
Vapor Pressure: No data available  
Odor: Odorless  
Odor Threshold: No data available  
Viscosity: No data available  
Relative Density: 1.54 g/cm<sup>3</sup> at 20 °C (68 °F)  
Evaporation Rate: No data available  
Initial Boiling Point and Boiling Range: No data available  
Flammability (solid, gas): No data available  
Partition coefficient: n-octanol/water): log Pow: < -4 at 20 °C (68 °F)  
Auto-ignition Temperature: No data available  
Decomposition Temperature: No data available  
Flash Point (Closed Cup): No data available  
Flammable Limits: Upper (%) – No data available Lower (%) – No data available

## 10. STABILITY AND REACTIVITY

Reactivity: No data available  
Chemical Stability: Stable under normal conditions of use  
Possibility of Hazard Reactions: Will not occur  
Conditions to Avoid: Incompatibles, dust generation  
Incompatibles Materials: Strong oxidizing agents  
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, nitrogen oxides

## 11. TOXICOLOGICAL INFORMATION

Toxicity: LD<sub>50</sub> (Oral-Rat)(mg/Kg): >5,110  
LD<sub>50</sub> (Oral-Rabbit)(mg/Kg): No data available  
LD<sub>50</sub> (Dermal-Rabbit)(mg/Kg): 2000  
Carcinogenicity: NTP: No  
IARC: No  
Z List: No  
OSHA Reg: No  
Reproductive Toxicity: No data available

|  |   |                   |
|--|---|-------------------|
| Symptoms Associated with Overexposure:     | Irritation, itching, gastrointestinal upset, nausea, vomiting, headache, possible mutagenic effects, breathing difficulties, blood pressure changes |                   |
| Specific Target Organ Toxicity:            | Single Exposure:  | No data available |
|  | Repeated Exposure:  | No data available |
| Target Organs:                             | Lungs   |                   |
| Medical Conditions Aggravated By Exposure: | None identified   |                   |
| Routes of Entry:                           | Inhalation, ingestion, skin and eye contact   |                   |
| NIOSH/RTECS NO:                            | Not listed  |                   |

***The toxicological properties of this product have not been thoroughly investigated***

## 12. ECOLOGICAL INFORMATION

|                                |  |  |
|--------------------------------|--|--|
| Ecotoxicity:                   | Toxicity to fish - static test LC50 - Cyprinus carpio (Carp) - > 100 mg/l - 96 h<br>(OECD Test Guideline 203)                        |  |
|                                | Toxicity to daphnia - static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h<br>(OECD Test Guideline 202)                 |  |
|                                | Toxicity to algae - static test EC50 - Pseudokirchneriella subcapitata (green algae) - > 31 mg/l - 72 h<br>(OECD Test Guideline 201) |  |
| Persistence and Degradability: | 97% readily biodegradable – aerobic – exposure time – 28 d   |  |
| Bioaccumulative Potential:     | No data available  |  |
| Mobility in Soil:              | No data available  |  |
| Other Adverse Effects:         | No data available  |  |

## 13. DISPOSAL CONSIDERATION

|                             |  |
|-----------------------------|--|
| Disposal Procedure:         | Dispose in accordance with all applicable federal, state, and local environmental regulations. |
| EPA Hazardous Waste Number: | No data available  |

## 14. TRANSPORT INFORMATION

|                    |                       |                                   |
|--------------------|-----------------------|-----------------------------------|
| Domestic (D.O.T.): | Proper Shipping Name: | CHEMICALS, N.O.S. (NON-REGULATED) |
|                    | Hazard Class:         | N/A                               |
|                    | UN/NA:                | N/A                               |
|                    | Labels:               | N/A                               |

### International:

|       |                       |                                   |
|-------|-----------------------|-----------------------------------|
| IMDG: | Proper Shipping Name: | CHEMICALS, N.O.S. (NON-REGULATED) |
|       | Hazard Class:         | N/A                               |
|       | UN/NA:                | N/A                               |
|       | Labels:               | N/A                               |

|       |                       |                                   |
|-------|-----------------------|-----------------------------------|
| IATA: | Proper Shipping Name: | CHEMICALS, N.O.S. (NON-REGULATED) |
|       | Hazard Class:         | N/A                               |
|       | UN/NA:                | N/A                               |
|       | Labels:               | N/A                               |

## 15. REGULATORY INFORMATION

TSCA: Yes

### SARA TITLE III:

Section 302 (EHS) Ingredients: No

Section 313 Ingredients: No

Section 304 (EHS/CERCLA) Ingredients: No

Section 311/312 Hazard: No SARA Hazards

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

Pennsylvania Right to Know Components: CAS No.: 56-86-0 Glutamic acid

New Jersey Right to Know Components: CAS No.: 56-86-0 Glutamic acid

California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

## 16. OTHER INFORMATION

HMIS Rating:

| Health Hazard | Chronic Health Hazard | Flammability | Physical Hazard |
|---------------|-----------------------|--------------|-----------------|
| 0             |                       | 0            | 0               |

NFPA Rating:

| Health Hazard | Fire Hazard | Reactivity Hazard | Special Hazard |
|---------------|-------------|-------------------|----------------|
| 0             | 0           | 0                 |                |

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Revision Date: 20 May 15