

SAFETY DATA SHEET

[Required under safety and health regulations for shipping and handling]

Version: 2020

Date Updated: November 06, 2020

SECTION 1. ----- PRODUCT AND COMPANY IDENTIFICATION------

Product Name	L-Glutamic acid
Product Code(s)	GB0221
Recommended Use	For Laboratory Research Use Only Not for Human or Animal Drug Use
Supplier	Bio Basic Inc.

Supplier	DIO DASICITIC.
Address	20 Konrad Crescent, Markham, Ontario,
	Canada, L3R 8T4
Telephone	(905) 474 4493
Fax	(905) 474 5794
For Chemical Emergency Phone#	(416) 995 9730

SECTION 2. ------ HAZARDS IDENTIFICATION -----

GHS Classification in accordance with Hazardous Products Regulations (HPR) (SOR/2015-17) Short-term (acute) aquatic hazard (Category 3), H402

GHS Label elements, including precautionary statements

Pictogram	none
Signal word	none
Hazard statement(s) H402	Harmful to aquatic life.
Precautionary statement(s) P273 P501	Avoid release to the environment. Dispose of contents/ container to an approved waste disposal plant.

SECTION 3. - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -

Chemical Name	EC No.	CAS-No	Weight
Glu(S)-2-Aminopentanedioic acid	200-293-7	56-86-0	147.13 g/mol

SECTION 4. ----- FIRST-AID MEASURES------

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

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

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician

SECTION 5. ----- FIRE FIGHTING MEASURES -----

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NOx)

Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

Explosion data - sensitivity to mechanical impact no data available

Explosion data - sensitivity to static discharge

no data available

SECTION 6. ----- ACCIDENTAL RELEASE MEASURES------

Personal precautions

Avoid dust formation. Avoid breathing vapours, mist or gas.Ensure adequate ventilation. For personal protection see section 8.

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..

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. Sweep up and shovel. Keep in suitable, closed containers for disposal.

SECTION 7. ----- HANDLING AND STORAGE-----

Precautions for safe handling

Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Storage class (TRGS 510): 13: Non Combustible Solids

SECTION 8. - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION - - - -

Personal protective equipment

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Body Protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Eye/Face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body 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:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested:Dermatril® (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. It should not be construed as offering an approval for any specific use scenario.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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.

SECTION 9. ----- PHYSICAL AND CHEMICAL PROPERTIES ------

Appearance	
Form	solid
Safety data	
	and determined

pH no data available

QF26 Rev 2

Melting point/freezing point	Melting point/range: 205 °C (401 °F)
Boiling point	- OECD Test Guideline 103decomposition below boiling point
Flash point	no data available
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Flammability	The product is not flammable Flammability (solids)
Vapour pressure	< 0.1 hPa at 20 °C (68 °F) - OECD Test Guideline 104
Density	no data available
Water solubility	8.64 g/l at 25 °C (77 °F) - soluble
Partition coefficient: n-octanol/water	log Pow: < -4 at 20 °C (68 °F) - OECD Test Guideline 107 – bioaccumulation is not expected
Relative density	1.54 g/cm3 at 20 °C (68 °F) –
Auto-ignition temperature	does not ignite
Odour	no data available
Odour Threshold	no data available
Evapouration rate	no data available
Surface tension	74.2 mN/m at 1g/l at 20 °C (68 °F) - OECD Test Guideline 115

SECTION 10. ------STABILITY AND REACTIVITY ------

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardousreactions No data available

Conditions to avoid No data available.

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx),Sulphur oxides, Sodium oxides

Other decomposition products - No data

SECTION 11. - - - - - TOXICOLOGICAL INFORMATION - - - - - -

Acute toxicity

LD50 Oral - Rat - male and female - > 5,110 mg/kg Remarks: (ECHA) Inhalation: No data available LD50 Dermal - Rat - male and female - > 2,000 mg/kg (OECD Test Guideline 402) No data available

Skin corrosion/irritation

Skin - Rabbit Result: No skin irritation - 4 h (Regulation (EC) No. 440/2008, Annex, B.4)

Serious eye damage/eye irritation

Eyes - Rabbit Result: No eye irritation (Regulation (EC) No. 440/2008, Annex, B.5)

Respiratory or skin sensitisation

Maximisation Test - Guinea pig Result: negative (Regulation (EC) No. 440/2008, Annex, B.6)

Germ cell mutagenicity

Ames test Escherichia coli/Salmonella typhimurium Result: negative OECD Test Guideline 474 Mouse - male - Bone marrow Result: negative

Carcinogenicity

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.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

No data available Acute oral toxicity - Possible damages:, Nausea

Specific target organ toxicity - repeated exposure (Globally Harmonized System) No data available

Aspiration hazard

No data available

Additional Information

Repeated dose toxicity - Dog - male and female - Oral - 90 - 92 Days - No observed adverse effect level - >= 1,500 mg/kg (in analogy to similar products) RTECS: Not available

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

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately. This is a non-essential amino acid that occurs in many forms in natural protein. Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. ----- ECOLOGICAL INFORMATION -----

Toxicity Toxicity to fish	static test LC50 - Cyprinus carpio (Carp) - > 100 mg/l (OECD Test Guideline 203)- 96
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - > 100 mg/l (OECD Test Guideline 20 - 48 h
Toxicity to algae	static test EC50 - Pseudokirchneriellasubcapitata (green algae) – 27mg/l - 72 h(OEC Test Guideline 201)
Persistence and deg Biodegradability	g radability aerobic - Exposure time 28 d Result: 97 % - Readily biodegradable. (OECD Test Guideline 301E)
Ratio BOD/ThBOD	64 %
Bioaccumulative po no data available	tential
Mobility in soil no data available	
PBT and vPvB asse PBT/vPvB assessme	ssment nt not available as chemical safety assessment not required/not conducted
Other adverse effec An environmental haza Harmful to aquatic life No data available	ts ard cannot be excluded in the event of unprofessional handling or disposal.
ΓΙΟΝ 13 Ι	DISPOSAL CONSIDERATIONS
Product Offer surplus and nor	n-recyclable solutions to a licensed disposal company.
Contaminated packa	

Dispose of as unused product.

SECTION 14. ----- TRANSPORT INFORMATION -----

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

ΙΑΤΑ

Not dangerous goods

SECTION 15. ----- REGULATORY INFORMATION -----

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

SECTION 16. ----- OTHER INFORMATION-----

Further information: no limited for paper copy, just for internal uses. For research use only. Not intended for human or animal diagnostic or therapeutic uses.

QF26 Rev 2

Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any othermaterial or in any process, unless specified in the text.

Issuing Date:06-Nov-2020

End of SDS



A world leader in serving science

CERTIFICATE OF ANALYSIS

Product	L-GLUTAMIC ACID, FREE ACID FCC	
Grade	High Purity	
Product Code	GB0221	
Formula	C5H9NO4	
MW	147.13	
CAS#	56-86-0	
Lot No		
Test Items	Specifications	Results
Appearance	White crystals or crystalline powder	
Identification (IR)	Passes test	
Assay	99.0%-100.5%	
pH	3.0 ~ 3.5	
Specific Rotation(Dried)	+31.5°-+32.5°	
Chloride	≤0.02%	
Ammonium	≤0.02%	
Sulfate	≤0.02%	
Iron	≤10ppm	
Heavy Metals (as Pb)	≤10ppm	
Arsenic (as As)	≤ 1ppm	
Other Amino-acid	Passes test	
State of solution	Clear and colorless	
	≥98%	
Loss on Drying	≤0.1%	
Residue on ignition	≤0.1%	

Storage: Store at room temperature. Protect from moisture.

QF 21 Rev 2015.1