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SECTION 1: COMPANY AND PRODUCT INFORMATION

1.1 Product identifiers

Product name : L-Aspartic acid
Product code : 40100288
CAS number : 56-84-8
Synonyms : (S)-(+)-Aminosuccinic acid
(S)-Aminobutanedioic acid

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, manufacture of substances

1.3 Details of the supplier of the safety data sheet

Address : 4150 Tuller Rd.
Suite 228
Dublin, OH 43017
Email : tech@bio-world.com
Phone : 614-792-8680, Toll free: 1-888-bio-PLUS
Fax : 614-792-8685

1.4 Emergency telephone number

Emergency phone : 1-888-bio-PLUS

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture

Not a hazardous substance or mixture.

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

Not a hazardous substance or mixture.

2.3 Label elements and precautionary statements

Pictogram : None
Signal word : None
Hazard statement(s) : Not available
Precautionary statement(s) : Not available

2.4 Hazards not otherwise classified (HNOC) or not covered by GHS

None

2.5 NFPA Rating

Health hazard : 0
Fire hazard : 0
Reactivity hazard : 0

2.6 HMIS Rating

Health hazard : 0
Chronic health hazard : 0
Reactivity hazard : 0
Flammability : 0
Physical hazard : 0

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Substance	CAS#	EC#	Concentration
L-Aspartic acid M.F: C ₄ H ₇ NO ₄ M.W: 133.10 g/mol	56-84-8	200-291-6	95-100%

3.2 Hazardous components & classification

Not available

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

In case of inhalation

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.

In case of ingestion

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

Not available

4.3 Indication of any immediate medical attention and special treatment needed

Not available

SECTION 5: FIREFIGHTING MEASURES

5.1 Suitable extinguishing media

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

5.2 Unsuitable extinguishing media

Not available

5.3 Special hazards arising from the substance

Carbon oxides, Nitrogen oxides (NO_x)

5.4 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Avoid breathing dust

For personal protection see section 8

6.2 Environmental precautions

No special environmental precautions required.

6.3 Methods and material for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

For proper disposal see section 13

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

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

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed in a dry and well-ventilated place.
Keep in a dry place.
Storage class (TRGS 510): Non Combustible Solids

Incompatible materials : Strong acids, Strong bases, Strong oxidizing agents, Nitric acid

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Contains no substances with occupational exposure limit values.

8.2 Engineering controls

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

8.3 Personal protective equipment

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

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.

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.

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).
Control of environmental exposure	: No special environmental precautions required.
General hygiene considerations	: Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	: Form: powder Colour: white
b)	Physical states	: Solid
c)	Odor	: Not available
d)	Odor threshold	: Not available
e)	Melting point	: > 300 °C (> 572 °F) - dec.
f)	Boiling point range	: Not available
g)	pH	: 2.8 at 4.5 g/l at 20 °C (68 °F)
h)	Density	: Not available
i)	Flash point	: Not available
j)	Evaporation rate	: Not available
k)	Flammability	: Not available
l)	Upper/lower flammability or explosive limits:	: Not available
m)	Vapor pressure	: Not available
n)	Vapor density	: Not available
o)	Relative density	: 1.660 g/cm ³
p)	Water solubility	: soluble
q)	Partition coefficient:n-octanol/water	: Not available
r)	Autoignition temperature	: Not available
s)	Decomposition temperature	: Not available
t)	Kinematic viscosity	: Not available
u)	Explosive properties	: Not available
v)	Oxidizing properties	: Not available
w)	Solubility in other solvents	: Not available
x)	Surface tension	: Not available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Not available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Stability note(s)

Not available

10.4 Polymerization

Not available

10.5 Possibility of hazardous reactions

Not available

10.6 Incompatible materials

Strong acids, Strong bases, Strong oxidizing agents, Nitric acid

10.7 Hazardous decomposition products

Not available

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Acute toxicity

LD50 Oral : Not available

LD50 Dermal : Not available

LC50 Inhalation : Not available

11.2 Skin corrosion/irritation

Not available

11.3 Serious eye damage/eye irritation

Not available

11.4 Respiratory or skin sensitization

Not available

11.5 Germ cell mutagenicity

Not available

11.6 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.

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.

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

11.7 Reproductive toxicity

Not available

11.8 Specific target organ toxicity – single exposure

Not available

11.9 Specific target organ toxicity – repeated exposure

Not available

11.10 Aspiration hazard

Not available

11.11 Additional Information

Not available

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Not available

12.2 Aquatic toxicity

Not available

12.3 Persistence and degradability

Not available

12.4 Bioaccumulative potential

Not available

12.5 Mobility in soil

Not available

12.6 Results of PBT and vPvB assessment

Not available

12.7 Other adverse effect

Not available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

13.2 Packaging

Dispose of as unused product.

13.3 Recommendation

Not available

SECTION 14: TRANSPORTATION INFORMATION

14.1 DOT (US)

Not dangerous goods

14.2 IMDG

Not dangerous goods

14.3 IATA

Not dangerous goods

SECTION 15: REGULATORY INFORMATION

15.1 SARA

SARA 302 Components

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

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.

SARA 311/312 Hazards

No SARA Hazards

15.2 Clean water act (CWA)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

15.3 Right to know components

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

Pennsylvania : Aspartic acid CAS-No-56-84-8

New Jersey : Aspartic acid CAS-No-56-84-8

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

SECTION 16: OTHER INFORMATION

16.1 Disclaimer

This product is offered by bioWORLD for research, laboratory or further manufacturing use. Not for human use or consumption. The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchant-ability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall bio-WORLD.com be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if bio-WORLD.com has been advised of the possibility of such damages.

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16.2 Preparation Information

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