1. Substance/ Preparation of the substance and name of the company

1.1 Substance name
DL-Aspartic acid

1.2 Name and address of the manufacturer and supplier

Amino GmbH
An der Zucker-Raffinerie 9
38373 Frellstedt
Germany

Phone: +49 5355/91 00 0
Fax: +49 5355/91 00 713
Emergency Information: +49 53 55/91 00 0 (from Monday to Friday between 8 am and 5 pm)
Contact for information: msds@amino.de

1.3 Use of substance/preparation
infusion and injection, pharmaceutical actives, intermediates, specialized nutritional products, cell culture media, excipients

2. Hazards identification

The present results for assessment are not applicable for classification by hazard characteristics according to the guideline 67/548/EWG and CLP-regulation no. 1272/2008 and the appropriate national legislation.

3. Composition/ Information on ingredients

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>EC No.</th>
<th>Molecular weight</th>
<th>Formula</th>
<th>Chemical name</th>
</tr>
</thead>
<tbody>
<tr>
<td>617-45-8</td>
<td>210-513-3</td>
<td>133.10</td>
<td>( \text{C}_4\text{H}_7\text{NO}_4 )</td>
<td>2-Aminobutanedioic acid</td>
</tr>
</tbody>
</table>

4. First aid measures

4.1 General:
--

4.2 Inhalation: Remove patient to fresh air and seek medical advice in case of irritation.

4.3 Skin contact: Wash exposed area with soap and water. Get medical advice if irritation develops.

4.4 Eye contact: Rinse thoroughly with water whilst lifting eyelids.

4.5 Ingestion (bigger amounts): In case of indisposition seek medical advice.

4.6 Notes to physicians:
--
5. Fire fighting measures

5.1 Fire extinguishing media: Water spray, dry chemical, alcohol foam, or carbon dioxide.

5.2 Particular hazards: Flammable. In case of fire hazardous fumes might emerge.

5.3 In case of fire might emerge: Nitrogen gases.

6. Accidental release measures

6.1 Precautionary measures: Avoid raising dust.

6.2 Clean up activities: Sweep up dry, dispose as waste and clean subsequently.

7. Handling and storage

7.1 Handling: No particular requirements.

7.2 Storage: Dry and in tightly closed containers at room temperature. No particular requirements.

8. Exposure controls and personal protection

8.1 Additional points for the development of technical equipment: --

8.2 Personal protection:
- Breathing protection: dustmask P1
- Eye protection: protective glasses
- Hand protection: protective gloves
- Body protection: suitable protective clothes

Informations on working hygiene: wash hands thoroughly after contact with the material

9. Physical and chemical properties

9.1 Appearance:
- Form: crystals
- Colour: white
- Odour: nearly odourless
9.2 Security relevant data:

- pH value: 2.6 – 3.3 (saturated solution, 20°C)
- Melting temperature: >230°C (under decomposition)
- Boiling temperature: not available
- Ignition temperature: not available
- Combustion point: not available
- Explosion limits: lower not available, upper not available
- Density: not available
- Bulk density: not available
- Solubility in water (20°C): 0.6g / 100ml H₂O
- Thermal decomposition: not available

10. Stability and reactivity

10.1 Incompatible materials and conditions to avoid:
- Strong oxidizing agents

10.2 Hazardous combustion and decomposition products:
- Toxic fumes of carbonmonoxide, carbondioxide, nitrogenoxides

11. Toxicological information

11.1 Acute toxicity:
- Classification relevant LD/LC 50 values: not known

- Primary irritation:
  - Ingestion of bigger amounts may possibly damage health. May cause eye irritation.

11.2 Chronic effects: --

11.3 Experiences on humans: --

11.4 More toxic informations:
- Essential amino acid. No toxic health effects known when properly stored.

11.5 Other informations:
- This material is to handle with the necessary care as for chemicals.

12. Ecological information

At proper handling and use no ecological harms are known.

Other informations: none
13. Disposal information

Product:
Disposal according to legal regulations.

Packaging:
Disposal according to legal regulations.

14. Transportation information

No hazardous material according to the transportation regulations.

15. Regulatory information

15.1 Labelling according to the EU regulations

The present results for assessment are not applicable for classification by hazard characteristics according to the guideline 67/548/EWG and CLP-regulation no. 1272/2008 and the appropriate national legislation, therefore no hazardous symbol, labelling and R-phrases / H-phrases and S-phrases / P-phrases are necessary.

15.2 German regulations:

Water hazardous classification: 1
Others: --

16. Other information

The data given herein are based on current knowledge and experience. There is no demand of completeness and the user should consider this Safety Data Sheet only as a guide.

Revision index

<table>
<thead>
<tr>
<th>reason of revision</th>
<th>valid from</th>
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</thead>
<tbody>
<tr>
<td>Version 1: issue of this document</td>
<td>2007-09-30</td>
</tr>
<tr>
<td>Version 2: general update in chapter 1, 2, 15 and header, change in chapter 2 and 3, classification of substances according to 67/548/EWG and CLP-regulation no. 1272/2008, inclusion of revision index in chapter 16</td>
<td>2010-11-30</td>
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