

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

1.1. Product identifier

Product form : Mixture
 Product name : PF-2 Li Amino Acid Buffer
 Product code : ANO-5032
 Other means of identification : PF-2 Buffer for L-8800(A)\L-8900

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

Use of the substance/mixture : Buffer

1.3. Details of the supplier of the safety data sheet

ADS Biotec Inc.
 7409 Irvington Road
 Omaha, NE 68122 - USA
support@adsbiotec.com

1.4. Emergency telephone number

Emergency Contact Number : USA: 1-800-255-3924 (CHEMTEL 24hr); International: +1-813-248-0585 (CHEMTEL 24hr)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Not classified

2.2. Label elements

GHS-US labelling

No labeling applicable

2.3. Other hazards

Other hazards not contributing to the classification : May cause eye irritation. Repeated or prolonged contact may cause skin irritation. May cause irritation to the respiratory tract.

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

Full text of H-phrases: see section 16

3.2. Mixture

| Name | Product identifier | % | GHS-US classification |
|-------------|--------------------|-------|-----------------------|
| Citric Acid | (CAS No) 77-92-9 | 1 - 5 | Eye Irrit. 2A, H319 |
| Ethanol | (CAS No) 64-17-5 | 1 - 5 | Flam. Liq. 2, H225 |
| Water | (CAS No) 7732-18-5 | 93 % | Not classified |

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Remove to fresh air, keep the patient warm and at rest. If symptoms develop obtain medical attention.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If symptoms develop obtain medical attention.

First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms develop obtain medical attention.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Give 100 - 200 ml of water to drink. If symptoms develop obtain medical attention.

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4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Explosion hazard : On exposure to high temperature, may decompose, releasing explosive vapours.

Reactivity : None known.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid fire-fighting water entering the environment.

Protection during firefighting : Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid all contact with skin, eyes, or clothing.

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing and eye or face protection. Equip cleanup crew with proper protection.

Emergency procedures : Remove ignition sources. Avoid contact with eyes, skin and clothing. Ensure adequate ventilation. Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wash spill area with soapy water.

6.4. Reference to other sections

SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations. See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Keep away from open flames, hot surfaces and sources of ignition. Avoid contact with skin, eyes and clothing. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour.

Hygiene measures : Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed.

Storage conditions : Keep only in the original container in a cool well ventilated place. Keep container tightly closed.

Incompatible products : Acids. Strong bases. Metals. Oxidizing agent. Reducing agents. Combustible materials.

7.3. Specific end use(s)

A buffer used for amino acid analysis by HPLC in a professional diagnostic or research laboratory.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Ethanol (64-17-5) | | |
|-------------------|-------------------------------------|------------------------|
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 1900 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 1000 ppm |

8.2. Exposure controls

| | |
|----------------------------------|--|
| Appropriate engineering controls | : Ensure adequate ventilation. |
| Personal protective equipment | : Avoid all unnecessary exposure. |
| Hand protection | : Standard EN 374 - Protective gloves against chemicals. |
| Eye protection | : Safety glasses with face shield. Standard EN 166 - Personal eye-protection. |
| Respiratory protection | : Not required under normal use. In case of insufficient ventilation, wear suitable respiratory equipment. |
| Thermal hazard protection | : Not required for normal conditions of use. |
| Environmental exposure controls | : Not normally required. |
| Other information | : Do not eat, drink or smoke during use. |

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|------------------------------|
| Physical state | : Liquid |
| Appearance | : Clear. |
| Colour | : Colourless. |
| Odour | : characteristic. |
| Odour threshold | : No data available |
| pH | : 3.7 |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Melting point | : No data available |
| Freezing point | : No data available |
| Boiling point | : No data available |
| Flash point | : > 100 °C > 212 °F |
| Self ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapour pressure | : 44.6 mm Hg @ 20 °C (68 °F) |
| Relative vapour density at 20 °C | : No data available |
| Relative density | : 1 |
| Solubility | : Miscible with water. |
| Log Pow | : No data available |
| Log Kow | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosive properties | : No data available |
| Oxidising properties | : No data available |
| Explosive limits | : No data available |

9.2. Other information

| | |
|-------------------------|-----|
| Minimum ignition energy | : > |
|-------------------------|-----|

SECTION 10: Stability and reactivity

10.1. Reactivity

None known.

10.2. Chemical stability

Stable under normal conditions.

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10.3. Possibility of hazardous reactions

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Acids. metals. Oxidizing agents. Reducing agents. Strong acids.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

| Citric acid (77-92-9) | |
|-----------------------|--------|
| LD50 oral rat | 3 g/kg |

| Ethanol (64-17-5) | |
|---------------------------|----------------|
| LD50 oral rat | 7060 mg/kg |
| LC50 inhalation rat (ppm) | 20000 ppm 10 H |

Skin corrosion/irritation : Not classified

pH: 3.1

Serious eye damage/irritation : Not classified

pH: 3.1

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Based on available data, the classification criteria are not met

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Based on available data, the classification criteria are not met

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Based on available data, the classification criteria are not met

Aspiration hazard : Not classified

Based on available data, the classification criteria are not met

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Not classified.

12.2. Persistence and degradability

| PF-2 Li Amino Acid Buffer 2 | |
|-------------------------------|---------------------------|
| Persistence and degradability | No information available. |

12.3. Bioaccumulative potential

| PF-2 Li Amino Acid Buffer 2 | |
|-----------------------------|---------------------------|
| Bioaccumulative potential | No information available. |

12.4. Mobility in soil

| PF-2 Li Amino Acid Buffer 2 | |
|-----------------------------|---------------------------|
| Ecology - soil | No information available. |

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12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Empty containers should be taken to an approved waste handling site for recycling or disposal.
Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT

No dangerous good in sense of transport regulations

Additional information

Other information : Not classified.

Special transport precautions : No special precautions required.

Transport by sea

No dangerous good in sense of transport regulations

Air transport

No dangerous good in sense of transport regulations

SECTION 15: Regulatory information

15.1. US Federal regulations

Citric acid (77-92-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Ethanol (64-17-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

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WHMIS Classification

Class B Division 2 - Flammable Liquid
Class D Division 2 Subdivision B - Toxic material causing other toxic effects

15.2.2. National regulations

Ethanol (64-17-5)

Listed on IARC (International Agency for Research on Cancer)

15.3. US State regulations

Ethanol (64-17-5)

U.S. - New Jersey - Right to Know Hazardous Substance List

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SECTION 16: Other information

Abbreviations and acronyms : ADR (Accord européen relatif au transport international des marchandises Dangereuses par Route). CAS (Chemical Abstracts Service) number. IARC (International Agency for Research on Cancer). IATA (International Air Transport Association). IMDG (International Maritime Dangerous Goods Code). RID (Règlement concernant le transport international ferroviaire de marchandises).

Other information : None.

Full text of H-phrases: see section 16:

| | |
|---------------|--|
| Eye Irrit. 2A | Serious eye damage/eye irritation, Category 2A |
| Flam. Liq. 2 | Flammable liquids, Category 2 |
| H225 | Highly flammable liquid and vapour |
| H319 | Causes serious eye irritation |

NCEC SDS US GHS (Hazcom 2012)

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