

Section 1 - Chemical Product and Company Identification

MSDS Name: L-(+)-glutamine

Catalog Numbers: BP379-100, MT25005CIEM, O2956-100

Synonyms: Glutamine, L-; 2-Aminoglutaramic acid; L-2-Aminoglutaramidic acid; Glutamic acid amide; Glutamic acid 5-amide; gamma-Glutamine * L-Glutamine * Levoglutamid * Levoglutamide

Company Identification: Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410

For information in the US, call: 201-796-7100

Emergency Number US: 201-796-7100

CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#: 56-85-9
Chemical Name: L-glutamine
%: 99-100
EINECS#: 200-292-1

Hazard Symbols: XI



Risk Phrases: 36/37/38

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Warning! Irritant. The toxicological properties of this material have not been fully investigated. Causes eye, skin, and respiratory tract irritation. Target Organs: Respiratory system, eyes, skin.

Potential Health Effects

Eye: Causes eye irritation. May cause chemical conjunctivitis.
Skin: Causes skin irritation. May be harmful if absorbed through the skin.
Ingestion: May cause irritation of the digestive tract. Expected to be a low ingestion hazard.
Inhalation: Causes respiratory tract irritation. May be harmful if inhaled.
Chronic: Laboratory experiments have resulted in mutagenic effects.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion: Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.
Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If

Inhalation: breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Dusts at sufficient concentrations can form explosive mixtures with air. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Use agent most appropriate to extinguish fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Autoignition Temperature: Not applicable.

Flash Point: Not applicable.

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

NFPA Rating: health: 2; flammability: 0; instability: 0;

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Use spark-proof tools and explosion proof equipment.

Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

| Chemical Name | ACGIH | NIOSH | OSHA - Final PELs |
|---------------|-------------|-------------|-------------------|
| L-glutamine | none listed | none listed | none listed |

OSHA Vacated PELs: L-glutamine: None listed

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Powder

Color: white

Odor: practically odorless

pH: 4-6 (2.5% aq. solution)

Vapor Pressure: Not available

Vapor Density: Not available

Evaporation Rate: Negligible.

Viscosity: Not available

Boiling Point: Not available

Freezing/Melting Point: 185 deg C (365.00°F)

Decomposition Temperature:

Solubility in water: Moderately soluble in water.

Specific Gravity/Density: Not available.

Molecular Formula: C5H10N2O3

Molecular Weight: 146.0816

Section 10 - Stability and Reactivity

| | |
|--|--|
| Chemical Stability: | Stable under normal temperatures and pressures. |
| Conditions to Avoid: | Incompatible materials, dust generation, excess heat. |
| Incompatibilities with Other Materials | Strong oxidizing agents. |
| Hazardous Decomposition Products | Nitrogen oxides, carbon monoxide, carbon dioxide, ammonia. |
| Hazardous Polymerization | Has not been reported. |

Section 11 - Toxicological Information

| | |
|------------------|--|
| RTECS#: | CAS# 56-85-9: MA2275100 |
| | RTECS: |
| LD50/LC50: | CAS# 56-85-9: Oral, mouse: LD50 = 21700 mg/kg; Oral, rat: LD50 = 7500 mg/kg; |
| | . |
| Carcinogenicity: | L-glutamine - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65. |
| Other: | No information found. |

Section 12 - Ecological Information

Not available

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT

Shipping Name: Not regulated.

Hazard Class:

UN Number:

Packing Group:

Canada TDG

Shipping Name: Not regulated as a hazardous material

Hazard Class:

UN Number:

Packing Group:

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XI

Risk Phrases:

R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

WGK (Water Danger/Protection)

CAS# 56-85-9: 0

Canada

CAS# 56-85-9 is listed on Canada's DSL List

Canadian WHMIS Classifications: Not controlled.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 56-85-9 is not listed on Canada's Ingredient Disclosure List.

US Federal

TSCA

CAS# 56-85-9 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 7/13/1999

Revision #7 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability 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 the company 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 the company has been advised of the possibility of such damages.
