

MATERIAL SAFETY DATA SHEET

Date Printed: 01/31/2004

Date Updated: 08/05/2003

Version 1.6

Section 1 - Product and Company Information

Product Name	L-ASPARTIC ACID FREE ACID
Product Number	A9256
Brand	SIGMA
Company	Sigma-Aldrich
Street Address	3050 Spruce Street
City, State, Zip, Country	SAINT LOUIS MO 63103 US
Technical Phone:	314 771 5765
Emergency Phone:	414 273 3850 Ext. 5996
Fax:	800 325 5052

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
L-ASPARTIC ACID	56-84-8	No
Formula	C4H7NO4	
Synonyms	(S)-Aminobutanedioic acid * L-Aminosuccinic acid * Asparagic acid * L-Asparagic acid * Asparaginic acid * L-Asparaginic acid * ASPARAGINSAEURE (German) * Aspartic acid * (L)-Aspartic acid * (S)-Aspartic acid * Butanedioic acid, amino-, (S)- * H-Asp-OH	
RTECS Number:	CI9098500	

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Caution: Avoid contact and inhalation.

HMIS RATING

HEALTH: 1

FLAMMABILITY: 0

REACTIVITY: 0

NFPA RATING

HEALTH: 1

FLAMMABILITY: 0

REACTIVITY: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is
conscious. Call a physician.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If breathing becomes difficult,
call a physician.

DERMAL EXPOSURE

In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of dust.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Wear dust mask.
Hand: Protective gloves.
Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

EXPOSURE LIMITS

Country	Source	Type	Value
	OSHA.	TWA	15 mg/m ³

Section 9 - Physical/Chemical Properties

Appearance	Physical State: Solid Color: White Form: Powder		
Property	Value	At Temperature or Pressure	
Molecular Weight	133.1 AMU		
pH	2.8	20 °C Concentration: 4.5 g/l	
BP/BP Range	N/A		
MP/MP Range	300 °C		
Freezing Point	N/A		
Vapor Pressure	N/A		
Vapor Density	N/A		
Saturated Vapor Conc.	N/A		
SG/Density	1.66 g/cm ³		
Bulk Density	N/A		
Odor Threshold	N/A		
Volatile%	N/A		
VOC Content	N/A		
Water Content	N/A		
Solvent Content	N/A		
Evaporation Rate	N/A		
Viscosity	N/A		
Surface Tension	N/A		
Partition Coefficient	N/A		
Decomposition Temp.	N/A		
Flash Point	N/A		
Explosion Limits	N/A		
Flammability	N/A		
Autoignition Temp	N/A		
Refractive Index	N/A		
Optical Rotation	Degree of Rotation: 50 g/l Solvent: 5 M HCl +29.5 - +24.7 (+/-1)		
Miscellaneous Data	N/A		
Solubility	Solubility in Water: Soluble. Solvent: 0.5M in HCl 1M, 20°C complete, colorless		

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Conditions to Avoid: Heat.

Materials to Avoid: Strong acids, Strong bases, Strong oxidizing agents, Nitric acid.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides.

HAZARDOUS POLYMERIZATION

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: May cause eye irritation.
Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.
Ingestion: May be harmful if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE

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

TOXICITY DATA

Oral
Rat
5,000 mg/kg
LD50
Skin
Rabbit
5,000 mg/kg
LD50

Intraperitoneal
Mouse
6 GM/KG
LD50

IRRITATION DATA

Eyes
Rabbit
Remarks: Moderate irritation effect
Skin
Rabbit
Remarks: No irritation effect

CHRONIC EXPOSURE - MUTAGEN

Species: Human
Dose: 10 MG/L
Cell Type: lymphocyte
Mutation test: Sister chromatid exchange

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: None
Non-Hazardous for Transport: This substance is
considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air
transport.

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

S: 24/25 22

Safety Statements: Avoid contact with skin and eyes. Do not
breathe dust.

US CLASSIFICATION AND LABEL TEXT

US Statements: Caution: Avoid contact and inhalation.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No

TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in
accordance with the hazard criteria of the CPR, and the MSDS
contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not
purport to be all inclusive and shall be used only as a guide.
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