



MATERIAL SAFETY DATA SHEET
REQUIRED UNDER SAFETY AND HEALTH REGULATION FOR SHIP REPAIRING

DATE UPDATED: NOVEMBER 26, 2014

SECTION 1. ----- CHEMICAL IDENTIFICATION-----

Product Name L-Asparagine monohydrate
Product Code(s) AB0017
Recommended Use For Further Manufacturing Use Only
Not for Human or Animal Drug Use
Synonyms (S)-2-Aminosuccinic acid 4-amide
L-Aspartic acid 4-amide
(S)-(+)-2-Aminosuccinamic acid

SECTION 2. ----- HAZARDS IDENTIFICATION -----

GHS - Classification

Classification Not classified as a hazard

SECTION 3. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----

Chemical Name	EC No.	REACH Reg. No.	CAS-No	Weight %	Classification
L-Asparagine	200-735-9	Not available	5794-13-8	95-100	-

SECTION 4. ----- FIRST-AID MEASURES-----

Eye Contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin Contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

Inhalation Move to fresh air. If breathing becomes difficult, give oxygen.

Ingestion Clean mouth with water and afterwards drink plenty of water.

Notes to Physician Treat symptomatically.

SECTION 5. ----- FIRE FIGHTING MEASURES -----

Flammable Properties	Not flammable.
Flash Point	Not determined
Suitable Extinguishing Media	Dry chemical, CO2, water spray or regular foam.
Hazardous Combustion Products	Carbon oxides, Nitrogen oxides (NOx).
Explosion Data	
Sensitivity to Mechanical Impact	Not sensitive.
Sensitivity to Static Discharge	Not sensitive.
Protective Equipment and Precautions for Firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6. ----- ACCIDENTAL RELEASE MEASURES-----

Personal Precautions	Avoid contact with skin, eyes and clothing. Use personal protective equipment. Ensure adequate ventilation.
Methods for Containment	Prevent further leakage or spillage if safe to do so.
Methods for Cleaning Up	Avoid dust formation. Pick up and transfer to properly labeled containers. Ventilate area and wash spill site after material pickup is complete.

SECTION 7. ----- HANDLING AND STORAGE-----

Handling	Handle in accordance with good industrial hygiene and safety practice. Hygroscopic.
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. Hygroscopic.
Incompatible Products	Strong oxidizing agents.

SECTION 8. ----- EXPOSURE CONTROLS/PERSONAL PROTECTION-----

Engineering Measures	Showers Eyewash stations Ventilation systems.
Personal Protective Equipment	
Eye/Face Protection	Safety glasses with side-shields.
Skin and Body Protection	Wear protective gloves/clothing.
Respiratory Protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. ----- PHYSICAL AND CHEMICAL PROPERTIES -----

Appearance	White
Odor	No information available
Odor Threshold	No information available
Decomposition Temperature °C	No information available
Freezing Point	No information available
Initial Boiling Point	No information available
Physical State	Crystalline, powder
pH	No data available
Flash Point	Not determined
Autoignition Temperature	No data available
Boiling Point/Range	No data available
Melting Point/Range	233 - 235 °C (451 - 455 °F)
Flammability Limits in Air	Upper No data available Lower No data available
Explosive Properties	No information available
Oxidizing Properties	No information available
Evaporation Rate	No data available
MMHG @ 37.8 C	No data available
Vapor Density	No data available
Specific Gravity	No data available
Density	1.600 g/cm3
Solubility	No information available
Partition Coefficient (n-octanol/water)	No data available
Viscosity	No information available

SECTION 10. -----STABILITY AND REACTIVITY -----

Stability	Stable under recommended storage conditions.
Incompatible Products	Strong oxidizing agents.
Conditions to Avoid	Protect from moisture.
Hazardous Decomposition Products	Carbon oxides. Nitrogen oxides (NOx).
Hazardous Polymerization	Hazardous polymerization does not occur.

SECTION 11. ----- TOXICOLOGICAL INFORMATION -----**Acute Toxicity**

Product Information	Product does not present an acute toxicity hazard based on known or supplied information.
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Chronic Toxicity

Chronic Toxicity No known effect based on information supplied.

Target Organ Effects None known.

SECTION 12. ----- ECOLOGICAL INFORMATION -----

Ecotoxicity

The environmental impact of this product has not been fully investigated.

SECTION 13. ----- DISPOSAL CONSIDERATIONS -----

Waste Disposal Method Dispose of material in accordance with all federal, state, and local regulations

Contaminated Packaging Dispose of in accordance with all federal, state and local regulations

SECTION 14. ----- TRANSPORT INFORMATION -----

IATA Not regulated

DOT Not regulated

SECTION 15. ----- REGULATORY INFORMATION -----

REACH Title VII Restrictions No information available.

Chemical Name	Dangerous Substances	Organic Solvents	Harmful Substances Whose Names Are to be Indicated on the Label	Pollution Release and Transfer Registry (Class II):	Pollution Release and Transfer Registry (Class I):	Poison and Deleterious Substances Control Law:
L-Asparagine	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

Component	ISHA - Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying	ISHA - Harmful Substances Requiring Permission	Toxic Chemical Classification Listing (TCCL) - Toxic Chemicals	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
L-Asparagine 5794-13-8(95-100)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

International Inventories

TSCA	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Does not Comply
PICCS	Complies

AICS

Complies

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

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).

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

CERCLA

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

International Regulations

Mexico - Grade No information available.

Canada

WHMIS Hazard Class

Not determined

SECTION 16. ----- OTHER INFORMATION-----

Issuing Date	13-Aug-2009
Revision Date	26-Nov-2014
Revision Note	No information available.
Recommended Restrictions	No information available

Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS