

Material Safety Data Sheet

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Version 1.3

According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

1 - Product and Company Information

Product Name	L-TYROSINE
Product Number	93829
Company	Sigma-Aldrich Pty. Ltd. 12 Anella Avenue Castle Hill NSW 2154 Australia
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2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
L-TYROSINE	60-18-4	200-460-4	None

Formula	C9H11NO3
Molecular Weight	181.19 AMU
Synonyms	(S)-alpha-Amino-4-hydroxybenzenepropanoic acid * (-)-alpha-Amino-p-hydroxyhydrocinnamic acid * Benzenepropanoic acid, alpha-amino-4-hydroxy-, (S)- * L-Phenylalanine, 4-hydroxy- * Propanoic acid, 2-amino-3-(4-hydroxyphenyl)-, (S) * Tyrosine * L-Tyrosine (9CI) * L-p-Tyrosine * p-Tyrosine * (S)-Tyrosine

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT
Irritating to eyes, respiratory system and skin.

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

AFTER SKIN CONTACT

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

AFTER EYE CONTACT

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

AFTER INGESTION

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

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

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

SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

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.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance

Physical State: Solid

Color: White

Form: Fine crystals

Property

Value

At Temperature or Pressure

pH

N/A

BP/BP Range

N/A

MP/MP Range

300 °C

Flash Point

N/A

Flammability	N/A
Autoignition Temp	N/A
Oxidizing Properties	N/A
Explosive Properties	N/A
Explosion Limits	N/A
Vapor Pressure	N/A
SG/Density	N/A
Partition Coefficient	N/A
Viscosity	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
Evaporation Rate	N/A
Bulk Density	N/A
Decomposition Temp.	N/A
Solvent Content	N/A
Water Content	N/A
Surface Tension	N/A
Conductivity	N/A
Miscellaneous Data	N/A
Solubility	Solvent: 0.5M in HCl1M, 20°C complete, colorless

10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, and nitrogen oxides.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: YP2275600

ACUTE TOXICITY

LD50

Intraperitoneal

Mouse

>1450 MG/KG

SIGNS AND SYMPTOMS OF EXPOSURE

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

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes eye irritation.

Inhalation: Material is irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

CHRONIC EXPOSURE - MUTAGEN

Human

10 MG/L

Cell Type: lymphocyte
Sister chromatid exchange

CHRONIC EXPOSURE - TERATOGEN

Species: Rat
Dose: 20750 MG/KG
Route of Application: Oral
Exposure Time: (15-19D PREG)
Result: Effects on Embryo or Fetus: Other effects to embryo.

Species: Rat
Dose: 3500 MG/KG
Route of Application: Oral
Exposure Time: (15-21D PREG)
Result: Specific Developmental Abnormalities: Central nervous system.

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat
Dose: 5 GM/KG
Route of Application: Oral
Exposure Time: (11-20D PREG)
Result: Effects on Newborn: Behavioral.

Species: Mouse
Dose: 150 MG/KG
Route of Application: Subcutaneous
Exposure Time: (3D PRE)
Result: Maternal Effects: Ovaries, fallopian tubes.

Species: Rabbit
Dose: 3 GM/KG
Route of Application: Oral
Exposure Time: (29-31D PREG)
Result: Effects on Newborn: Biochemical and metabolic.

12 - Ecological Information

No data available.

13 - Disposal Considerations

SUBSTANCE DISPOSAL

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.

14 - Transport Information

RID/ADR

Non-hazardous for road transport.

IMDG

Non-hazardous for sea transport.

IATA

Non-hazardous for air transport.

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: Xi

Irritant.

R-PHRASES: 36/37/38

Irritating to eyes, respiratory system and skin.

S-PHRASES: 26 36

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

16 - Other Information

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. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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