

Material Safety Data Sheet

L-Tyrosine

ACC# 12388

Section 1 - Chemical Product and Company Identification

MSDS Name: L-Tyrosine**Catalog Numbers:** A4921207, BP396 100, BP396-100, BP396100**Synonyms:** L(-)-Tyrosine; para-Tyrosine; L-p-Tyrosine; p-Tyrosine; (S)-Tyrosine**Company Identification:**

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100**Emergency Number:** 201-796-7100**For CHEMTREC assistance, call:** 800-424-9300**For International CHEMTREC assistance, call:** 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
60-18-4	L(-)-Tyrosine	ca.100	200-460-4

Hazard Symbols: None listed.**Risk Phrases:** None listed.

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless or white. **Caution!** The toxicological properties of this material have not been fully investigated. This substance has caused adverse reproductive and fetal effects in animals. May cause eye and skin irritation. May cause respiratory and digestive tract irritation.

Target Organs: No data found.**Potential Health Effects****Eye:** May cause eye irritation.**Skin:** May cause skin irritation.**Ingestion:** May cause irritation of the digestive tract. The toxicological properties of this substance have not been fully investigated.**Inhalation:** May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.**Chronic:** May cause reproductive and fetal effects. 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. Get medical aid.

Skin: Get medical aid. Flush skin with plenty of soap and 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.

Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If 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.

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. 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

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

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
L-(-)-Tyrosine	none listed	none listed	none listed

OSHA Vacated PELs: L-(-)-Tyrosine: No OSHA Vacated PELs are listed for this chemical.

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 a respirator's use.

Section 9 - Physical and Chemical Properties

Physical State: Crystalline powder

Appearance: colorless or white

Odor: none reported

pH: Not available.

Vapor Pressure: Negligible

Vapor Density: Not available.

Evaporation Rate: Negligible.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: 290-295 deg C (dec)

Autoignition Temperature: Not applicable.

Flash Point: Not applicable.

Decomposition Temperature: 295 deg C

NFPA Rating: (estimated) Health: 1; Flammability: 0; Reactivity: 0

Explosion Limits, Lower: Not available.

Upper: Not available.

Solubility: Slightly soluble.

Specific Gravity/Density: 1.34 (water=1)

Molecular Formula: C₉H₁₁NO₃

Molecular Weight: 181.0819

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, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:**CAS#** 60-18-4: YP2275600**LD50/LC50:**

Not available.

Carcinogenicity:

CAS# 60-18-4: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: No information available.**Teratogenicity:** No information available.**Reproductive Effects:** No information available.**Neurotoxicity:** No information available.**Mutagenicity:** No information available.**Other Studies:** No information available.

Section 12 - Ecological Information
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No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.**RCRA U-Series:** None listed.

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	No information available.				No information available.
Hazard Class:					
UN Number:					
Packing Group:					

Section 15 - Regulatory Information
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US FEDERAL

TSCA

CAS# 60-18-4 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA**Section 302 (RQ)**

None of the chemicals in this material have an RQ.

Section 302 (TPQ)

None of the chemicals in this product have a TPQ.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 60-18-4 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations**European Labeling in Accordance with EC Directives****Hazard Symbols:**

Not available.

Risk Phrases:**Safety Phrases:****WGK (Water Danger/Protection)**

CAS# 60-18-4: 0

Canada

CAS# 60-18-4 is listed on Canada's DSL List. CAS# 60-18-4 is listed on Canada's DSL List.

This product has a WHMIS classification of D2A.

CAS# 60-18-4 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

Section 16 - Additional Information
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MSDS Creation Date: 7/14/1999

Revision #1 Date: 8/02/2000

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

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