

## Material Safety Data Sheet

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Version 1.4

According to 91/155/EEC

## 1 - Product and Company Information

Product Name	L-TRYPTOPHAN
Product Number	93659
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## 2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
L(-)-TRYPTOPHAN	73-22-3	200-795-6	None

Formula	C11H12N2O2
Molecular Weight	204.23 AMU
Synonyms	Alanine, 3-indol-3-yl- * L-Alanine, 3-(1H-indol-3-yl)- * (S)-alpha-Amino-1H-indole-3-propanoic acid * alpha'-Amino-3-indolepropionic acid * (S)-alpha-Aminoindole-3-propionic acid * 2-Amino-3-indolylpropanoic acid * EH 121 * Indole-3-alanine * 1H-Indole-3-alanine, (S)- * 1H-Indole-3-propanoic acid, alpha-amino-, (S)- * 3-Indol-3-ylalanine * 1-beta-3-Indolylalanine * NCI-C01729 * Pacitron * Propionic acid, 2-amino-3-indol-3-yl- * L-Tryptofan * L-Trp * Tryptophan * L-Tryptophan * (S)-Tryptophan * Tryptophane * L-Tryptophane

## 3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT  
Not hazardous according to Directive 67/548/EEC.

## 4 - First Aid Measures

## AFTER INHALATION

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

## AFTER SKIN CONTACT

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

## AFTER EYE CONTACT

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.

#### AFTER INGESTION

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

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### 5 - Fire Fighting Measures

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#### 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.

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### 6 - Accidental Release Measures

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#### 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.

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### 7 - Handling and Storage

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#### HANDLING

Directions for Safe Handling: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

#### STORAGE

Conditions of Storage: Keep tightly closed.

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### 8 - Exposure Controls / Personal Protection

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#### ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

#### GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

#### PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Wear dust mask.

Hand Protection: Protective gloves.

Eye Protection: Chemical safety goggles.

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### 9 - Physical and Chemical Properties

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#### 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	280 - 285 °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: 0.1g/ml NH <sub>3</sub> 20%, 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, Nitrogen oxides.

### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

## 11 - Toxicological Information

RTECS NUMBER: YN6130000

### ACUTE TOXICITY

LD50

Oral

Rat

> 16000 mg/kg

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Etosis. Behavioral:Coma. Nutritional and Gross Metabolic:Changes in:Body temperature decrease.

LD50

Intraperitoneal

Rat

1634 MG/KG

Remarks: Lungs, Thorax, or Respiration:Dyspnea. Nutritional and Gross Metabolic:Changes in:Body temperature decrease.

LD50

Intraperitoneal

Mouse

4800 MG/KG

Remarks: Behavioral:Somnolence (general depressed activity).  
Lungs, Thorax, or Respiration:Cyanosis. Nutritional and Gross  
Metabolic:Changes in:Body temperature decrease.

LD50

Intraperitoneal

Bird

2410 MG/KG

#### SIGNS AND SYMPTOMS OF EXPOSURE

The Food and Drug Administration and the Center for Disease Control have established a link between l-tryptophan and a sometimes fatal blood disorder called eosinophilia-myalgia syndrome which is marked by severe muscle and joint pain, swelling of the arms and legs, skin rash, and sometimes fever. It is characterized by severe eosinophillia, a blood disorder in which the white blood cells increase to an abnormally high level. l-Tryptophan occurs naturally in many foods and investigation has not established whether it or an impurity introduced during manufacture or distribution is the cause.

#### 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.

#### CHRONIC EXPOSURE - CARCINOGEN

Rat

Route of Application: Subcutaneous

Exposure Time: 2Y

Result: Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Tumorigenic Effects: Uterine tumors

Mouse

Route of Application: Implant

Result: Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Kidney, Ureter, Bladder:Tumors.

#### CHRONIC EXPOSURE - MUTAGEN

Human

1 MMOL/L

Cell Type: lymphocyte

DNA inhibition

Human

10 MG/L

Cell Type: lymphocyte

Sister chromatid exchange

Rat

100 UMOL/L

Cell Type: liver

DNA inhibition

## CHRONIC EXPOSURE - TERATOGEN

Species: Rat  
Dose: 200 MG/KG  
Route of Application: Oral  
Exposure Time: (18D PREG)  
Result: Effects on Embryo or Fetus: Maternal-fetal exchange.

## CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat  
Dose: 1400 MG/KG  
Route of Application: Oral  
Exposure Time: (15-21D PREG)  
Result: Effects on Newborn: Delayed effects.

Species: Mouse  
Dose: 900 MG/KG  
Route of Application: Subcutaneous  
Exposure Time: (3D PRE)  
Result: Maternal Effects: Ovaries, fallopian tubes.

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### 12 - Ecological Information

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No data available.

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### 13 - Disposal Considerations

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#### 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.

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### 14 - Transport Information

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#### RID/ADR

Non-hazardous for road transport.

#### IMDG

Non-hazardous for sea transport.

#### IATA

Non-hazardous for air transport.

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### 15 - Regulatory Information

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Not hazardous according to Directive 67/548/EEC.

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### 16 - Other Information

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#### 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.

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