Section 1 - Product and Company Information

Product Name: L-Leucine
Product Number: L8000
Brand: Sigma Chemical
Company: Sigma-Aldrich
Street Address: 3050 Spruce Street
City, State, Zip, Country: SAINT LOUIS, MO 63110 US
Technical Phone: 800-325-8882
Fax: 800-325-9032

Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name: L(+)-LEUCINE
CAS #: 61-90-5
SARA 313: No
EC no: 200-522-0

Formula: C6H13NO2
Synonyms: alpha-Aminoisocaproic acid, L-alpha-Aminoisocaproic acid, 2-Amino-4-methylpentan-3-ol, (S)-2-Amino-4-methylpentane, alpha-Amino-gamma-methylvaleric acid, (S)-2-Amino-4-methylvaleric acid, Lau, Leucin (German), Leucine, L(+)-Leucine, (S)-Leucine, Nonvaline, 4-methyl-L-Norvaline, 4-methyl-Norvaline, 4-methyl-Valeric acid, 2-aminomethylvaleric, (S)-Valeric acid, 2-amino-4-methyl-

Section 3 - Hazards Identification

HMIS Rating
Health: 0
 Flammbility: 0
Reactivity: 0

NFPA Rating
Health: 0
 Flammbility: 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

Autoignition Temp: 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 Protection(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
Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks.

Hand
Protective gloves.

Eye
Chemical safety goggles.

General Hygiene Measures
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance
Physical State: Solid

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Ingestion
May be harmful if swallowed.

Signs and Symptoms of Exposure
The levorotary (l) forms of leucine, isoleucine, and valine have been found to have tumor-promoting activity for bladder carcinomas. Science 231, 963, 21 February 1986. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: OH2850000

Toxicity Data
Intrapitoneal - Rat: 5379 MG/KG (LD50)
Remarks: Lung, Thorax, or Respiration: Dyspnea.
Nutritional and Gross Metabolic Changes in: Body temperature decrease.

Chronic Exposure - Teratogen
Species: Rat
Route of Application: Intrapitoneal
Dose: 90 MG/KG
Exposure Time: (1-D PREG)
Result: Specific Developmental Abnormalities: Body wall.
Specific Developmental Abnormalities: Cranial (including nose and tongue).
Specific Developmental Abnormalities: Central nervous system.
Specific Developmental Abnormalities: Eye, ear.
Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).
Specific Developmental Abnormalities: Musculoskeletal system.
Specific Developmental Abnormalities: Urinary system.

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

Chronic Exposure - Reproductive Hazard
Species: Rat
Route of Application: Oral
Dose: 138 GM/KG
Exposure Time: (0-150 PREG)
Result: Effects on Fertility: Other measures of fertility Effects on Embryo or Fetus: Feto-toxicity (except death, e.g., stunted fetus).

Species: Rat
Dose: 90 MG/KG
Exposure Time: (1-D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

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.

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Section 15 - Regulatory Information

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. 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 2007 Sigma-Aldrich Co. Licensee granted to make unlimited paper copies for internal use only.