

L(+)-Arginine

Company Information

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Product Identification

【Product Name】

L(+)-Arginine

【Synonyms】

(2S)-2-Amino-5-(diaminomethylideneamino)pentanoic acid

(S)-2-Amino-5-guanidinopentanoic acid

【CAS】

74-79-3

【Formula】

C₆H₁₄N₄O₂

【Molecular Weight】

174.2

【EINECS】

200-811-1

【RTECS】

CF1934200

【RTECS Class】

Mutagen

【Merck】

13,785

【Beilstein/Gmelin】

1725413

【Beilstein Reference】

4-04-00-02648

【EC Class】

irritant

Physical and Chemical Properties

【Appearance】

Prisms; monoclinic plates.

【Solubility in water】

149 g/L

【Melting Point】

238

【Boiling Point】

368

【Vapor Pressure】

2.1E-6 (25 C)

【Density】

1.3 g/cm³ (20 C)

【pKa/pKb】

2.51 (pKa)

【Partition Coefficient】

-1.78

【Heat Of Vaporization】

67.5 kJ/mol

【Heat Of Combustion】

-3737 kJ/mol

【Usage】

Biochemical research, medicine, pharmaceuticals, dietary supplement.

First Aid Measures

【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.

【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.

【Eyes】

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Handling and Storage

【Storage】

Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from moisture. Store protected from light.

【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. Store protected from light. Do not allow contact with water. Keep from contact with moist air and steam.

Hazards Identification

【Inhalation】

May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.

【Skin】

May cause skin irritation. May cause erythema, and edema with crusting and scaling.

【Eyes】

May cause eye irritation.

【Ingestion】

May cause gastrointestinal irritation with nausea, vomiting and diarrhea. The toxicological properties of this substance have not been fully investigated.

【EC Risk Phrase】

R 36

【EC Safety Phrase】

S 26 36

Exposure Controls/Personal Protection

【Personal Protection】

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.

【Exposure Effects】

Laboratory experiments have resulted in mutagenic effects.

【Exposure limit(s)】

OEL-RUSSIA:STEL 10 mg/m³

Fire Fighting Measures

【Flash Point】

176

【Fire Fighting】

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. Non-combustible, substance itself does not burn but may decompose upon heating to produce irritating, corrosive and/or toxic fumes. Extinguishing media: Substance is noncombustible; use agent most appropriate to extinguish surrounding fire. Do NOT get water inside containers. In case of fire use water spray, dry chemical, carbon

dioxide, or appropriate foam.

Accidental Release Measures

【Small spills/leaks】

Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, using the appropriate protective equipment. Avoid generating dusty conditions. Provide ventilation. Do not get water inside containers.

Stability and Reactivity

【Stability】

Stable at room temperature in closed containers under normal storage and handling conditions. Materials containing similar functional groups can decompose at elevated temperatures.

【Incompatibilities】

Strong oxidizing agents, moisture.

【Decomposition】

Nitrogen oxides, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Transport Information

【HS Code】

2925 20 00