

**Material Safety Data Sheet**

According to OSHA and ANSI

Printing date 06/08/2012

Reviewed on 05/04/2009

**1 Identification of the substance/mixture and of the company/undertaking**

Product identifier

**L-Dopa**Product name: 3,4-Dihydroxy-L-phenylalanine

Stock number: A11311, L03936

CAS Number:

59-92-7

EC number:

200-445-2

Relevant identified uses of the substance or mixture and uses advised against.

Sector of Use SU24 Scientific research and development

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Alfa Aesar, A Johnson Matthey Company

Johnson Matthey Catalog Company, Inc.

30 Bond Street

Ward Hill, MA 01835-8099

Tel: 800-343-0660

Fax: 800-322-4757

Email: tech@alfa.com

www.alfa.com

Information Department: Health, Safety and Environmental Department

Emergency telephone number:

During normal hours the Health, Safety and Environmental Department at (800) 343-0660.

After normal hours call Carechem 24 at (866) 928-0789.

**2 Hazards identification**

Classification of the substance or mixture



GHS06 Skull and crossbones

H301 Toxic if swallowed.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Harmful

R22: Harmful if swallowed.

Information concerning particular hazards for human and environment: Not applicable

Label elements

GHS label elements

The substance is classified and labelled according to the Globally Harmonized System (GHS).

Hazard pictograms GHS06

Signal word Danger

Hazard statements

H301 Toxic if swallowed.

Precautionary statements

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P321 Specific treatment (see on this label).

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard description:

WHMIS classification

D1B - Toxic material causing immediate and serious toxic effects

D2A - Very toxic material causing other toxic effects

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**Classification system****HMIS ratings (scale 0-4)****(Hazardous Materials Identification System)**

HEALTH	1
FIRE	1
REACTIVITY	1

Health (acute effects) = 1

Flammability = 1

Reactivity = 1

**Other hazards****Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

**3 Composition/information on ingredients****Chemical characterization: Substances****CAS# Description:**

59-92-7 3,4-Dihydroxy-L-phenylalanine

**Identification number(s):**

EC number: 200-445-2

**4 First aid measures****Description of first aid measures****After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

**After skin contact**

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

**After eye contact**

Rinse opened eye for several minutes under running water. Then consult a doctor.

**After swallowing** Seek medical treatment.**Information for doctor****Most important symptoms and effects, both acute and delayed**

No further relevant information available.

**Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

**5 Firefighting measures****Extinguishing media****Suitable extinguishing agents**

Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**Special hazards arising from the substance or mixture**

If this product is involved in a fire, the following can be released:

Carbon monoxide and carbon dioxide

Nitrogen oxides (NOx)

**Advice for firefighters****Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

**6 Accidental release measures****Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

**Environmental precautions:**

Do not allow material to be released to the environment without proper governmental permits.

**Methods and material for containment and cleaning up:**

Dispose contaminated material as waste according to item 13.

**Reference to other sections**

See Section 7 for information on safe handling

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See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

**7 Handling and storage****Handling****Precautions for safe handling**

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

**Information about protection against explosions and fires:** No information known.**Conditions for safe storage, including any incompatibilities****Storage****Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:**

Store away from oxidizing agents.

Store in the dark.

**Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

Protect from exposure to light.

**Specific end use(s)** No further relevant information available.**8 Exposure controls/personal protection****Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

**Control parameters****Components with limit values that require monitoring at the workplace:** Not required.**Additional information:** No data**Exposure controls****Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Maintain an ergonomically appropriate working environment.

**Breathing equipment:** Use suitable respirator when high concentrations are present.**Protection of hands:**

Impervious gloves

Check protective gloves prior to each use for their proper condition.

The selection of suitable gloves not only depends on the material, but also on quality.

Quality will vary from manufacturer to manufacturer.

**Eye protection:** Safety glasses**Body protection:** Protective work clothing.**9 Physical and chemical properties****Information on basic physical and chemical properties****General Information****Appearance:****Form:**

Powder

**Color:**

White

**Odor:**

Odorless

**Odor threshold:**

Not determined.

**pH-value:**

Not applicable.

**Change in condition****Melting point/Melting range:**

295°C (563 °F) (dec)

**Boiling point/Boiling range:**

Not determined

**Sublimation temperature / start:**

Not determined

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<b>Flash point:</b>	Not applicable
<b>Flammability (solid, gaseous)</b>	Not determined.
<b>Ignition temperature:</b>	Not determined
<b>Decomposition temperature:</b>	Not determined
<b>Auto igniting:</b>	Not determined.
<b>Danger of explosion:</b>	Product does not present an explosion hazard.
<b>Explosion limits:</b>	
Lower:	Not determined
Upper:	Not determined
<b>Vapor pressure:</b>	Not applicable.
<b>Density:</b>	Not determined
<b>Relative density</b>	Not determined.
<b>Vapor density</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Solubility in / Miscibility with</b>	
Water at 20°C (68 °F):	1.6 g/l
<b>Segregation coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
dynamic:	Not applicable.
kinematic:	Not applicable.
<b>Other information</b>	No further relevant information available.

**10 Stability and reactivity****Reactivity****Chemical stability****Thermal decomposition / conditions to be avoided:**

Decomposition will not occur if used and stored according to specifications.

**Possibility of hazardous reactions** No dangerous reactions known**Incompatible materials:**

Oxidizing agents

Light

**Hazardous decomposition products:**

Carbon monoxide and carbon dioxide

Nitrogen oxides

**11 Toxicological information****Information on toxicological effects****Acute toxicity:****Primary irritant effect:****on the skin:** May cause irritation**on the eye:** May cause irritation**Sensitization:** No sensitizing effects known.**Other information (about experimental toxicology):**

Tumorigenic effects have been observed in tests with laboratory animals at very high doses

Reproductive effects have been observed on tests with laboratory animals.

Mutagenic effects have been observed on tests with bacteria.

Mutagenic effects have been observed on tests with laboratory animals.

**Subacute to chronic toxicity:****Subacute to chronic toxicity:**

The Registry of Toxic Effects of Chemical Substances (RTECS) reports the following effects in laboratory animals:

Behavioral - excitement.

Behavioral - somnolence (general depressed activity).

Behavioral - hallucinations, distorted perceptions.

Behavioral - toxic psychosis.

Behavioral - changes in motor activity (specific assay).

Behavioral - ataxia.

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Behavioral - aggression.  
 Behavioral - convulsions or effect on seizure threshold.  
 Sense Organs and Special Senses (Eye) - effect, not otherwise specified.  
 Sense Organs and Special Senses (Eye) - lacrimation.  
 Skin and Appendages - hair.  
 Skin and Appendages - tumors.  
 Lungs, Thorax, or Respiration - dyspnea.  
 Lungs, Thorax, or Respiration - other changes.  
 Lungs, Thorax, or Respiration - respiratory stimulation.  
 Related to Chronic Data - death.  
 Kidney, Ureter, Bladder - other changes in urine composition.  
 Blood - other changes.  
 Nutritional and Gross Metabolic - weight loss or decreased weight gain.  
 Liver - fatty liver degeneration.  
 Liver - changes in liver weight.  
 Gastrointestinal - nausea or vomiting.  
 Gastrointestinal - changes in structure or function of salivary glands.  
 Peripheral Nerve and Sensation - local anesthetic.  
 Autonomic Nervous System - sympathomimetic.  
 Reproductive - Specific Developmental Abnormalities - other developmental abnormalities.  
 Reproductive - Effects on Newborn - viability index (e.g., # alive at day 4 per # born live).  
 Reproductive - Fertility - litter size (e.g. # fetuses per litter; measured before birth).  
 Reproductive - Effects on Newborn - growth statistics (e.g.%, reduced weight gain).  
 Reproductive - Specific Developmental Abnormalities - musculoskeletal system.  
 Reproductive - Fertility - post-implantation mortality (e.g. dead/or resorbed implants per total number of implants).  
 Reproductive - Paternal Effects - spermatogenesis.  
 Reproductive - Paternal Effects - testes, epididymis, sperm duct.  
 Reproductive - Maternal Effects - ovaries, fallopian tubes.  
 Reproductive - Effects on Embryo or Fetus - fetal death.  
 Reproductive - Effects on Embryo or Fetus - fetotoxicity (except death, e.g., stunted fetus).  
 Reproductive - Effects on Newborn - physical.  
 Reproductive - Fertility - other measures of fertility.  
 Reproductive - Effects on Newborn - weaning or lactation index (e.g., # alive at weaning per # alive at day 4).  
 Reproductive - Specific Developmental Abnormalities - cardiovascular (circulatory) system.  
 Tumorigenic - carcinogenic by RTECS criteria.  
**Additional toxicological information:**  
 To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.  
 No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

**12 Ecological information****Toxicity****Aquatic toxicity:** No further relevant information available.**Persistence and degradability** No further relevant information available.**Behavior in environmental systems:****Bioaccumulative potential** No further relevant information available.**Mobility in soil** No further relevant information available.**Additional ecological information:****General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Do not allow material to be released to the environment without proper governmental permits.

**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**Other adverse effects** No further relevant information available.

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**13 Disposal considerations****Waste treatment methods**

Recommendation Consult state, local or national regulations to ensure proper disposal.

**Uncleaned packagings:**

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

**14 Transport information**

Not a hazardous material for transportation.

<b>UN-Number</b> DOT, ADR, IMDG, IATA	None
<b>UN proper shipping name</b> DOT, ADR, IMDG, IATA	None
<b>Transport hazard class(es)</b> DOT, ADR, IMDG, IATA Class	None
<b>Packing group</b> DOT, ADR, IMDG, IATA	None
<b>Environmental hazards:</b> Marine pollutant:	No
<b>Special precautions for user</b>	Not applicable.
<b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
<b>Transport/Additional information:</b>	Not dangerous according to the above specifications.

**15 Regulatory information**

Safety, health and environmental regulations/legislation specific for the substance or mixture

**GHS label elements**

The substance is classified and labelled according to the Globally Harmonized System (GHS).

Hazard pictograms GHS06

Signal word Danger

**Hazard statements**

H301 Toxic if swallowed.

**Precautionary statements**

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P321 Specific treatment (see on this label).

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**National regulations**

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

This product contains a chemical known to the state of California to cause cancer and/or reproductive toxicity.

All components of this product are listed on the Canadian Non-Domestic Substances List (NDSL).

**Information about limitation of use:** For use only by technically qualified individuals.**Other regulations, limitations and prohibitive regulations**

Although this chemical may sometimes be used as a food or drug or cosmetic, our products are not approved or suitable for such use or for human consumption.

**REACH - Pre-registered substances** Substance is listed.

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**Substances of very high concern (SVHC) according to REACH, Article 57**  
Substance is not listed.

**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**16 Other information**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing MSDS:** Health, Safety and Environmental Department.

**Contact:**

Zachariah C. Holt  
Global EHS Manager

**Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

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