

L-(-)- α -Methyldopa

sc-203092

Material Safety Data Sheet



The Power is Question

Hazard Alert Code Key:

EXTREME

HIGH

MODERATE

LOW

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

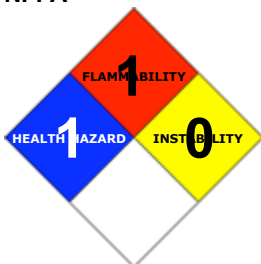
PRODUCT NAME

L-(-)- α -Methyldopa

STATEMENT OF HAZARDOUS NATURE

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

NFPA



SUPPLIER

Santa Cruz Biotechnology, Inc.
2145 Delaware Avenue
Santa Cruz, California 95060
800.457.3801 or 831.457.3800

EMERGENCY:

ChemWatch

Within the US & Canada: 877-715-9305

Outside the US & Canada: +800 2436 2255

(1-800-CHEMCALL) or call +613 9573 3112

SYNONYMS

C10-H13-N-O4, alpha-medopa, "L-(-)-beta-(3, 4-dihydroxyphenyl)-alpha-methylalanine", "L-(-)-3-(3, 4-dihydroxyphenyl)-2-methylalanine", "L-3-(3, 4-dihydroxyphenyl)-2-methylalanine", 3-hydroxy-alpha-methyl-L-tyrosine, L-(alpha-MD), "alpha-methyl-L-3, 4-dihydroxyphenylalanine", "L-alpha-methyl-3, 4-dihydroxyphenylalanine", "alpha-methyl-beta-(3, 4-dihydroxyphenyl)alanine", (-)-methyldopa, L-methyldopa, L-alpha-methyldopa, "alpha-methyl dopa", alpha-metyldopa, L-alpha-methyl-L-dopa, "L-tyrosine, 3-hydroxy-alpha-methyl-", Aldomet, Aldometil, Aldomin, AMD, "Bayer 1440-L", Baypresol, Dopamet, Dopatec, Dopegyt, Hyperpax, Medomet, Medopren, Methoplain, "MK. B51", MK-351, NCI-C55721, "NR.C 2294", Presinol, Presolisin, Sedometil, Sembrina, antihypertensive

Section 2 - HAZARDS IDENTIFICATION

CHEMWATCH HAZARD RATINGS

		Min	Max
Flammability:	1		
Toxicity:	2		
Body Contact:	0		
Reactivity:	1		

Min/Nil=0
Low=1
Moderate=2
High=3
Extreme=4





CANADIAN WHMIS SYMBOLS



EMERGENCY OVERVIEW

RISK

Harmful if swallowed.

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

■ Accidental ingestion of the material may be damaging to the health of the individual.

■ Sympathomimetics, which mimic stimulation of the sympathetic nerves, causing a stimulatory effect on the heart and central nervous system, constriction of blood vessels supplying the skin and mucous membranes, dilation of blood vessels supplying muscles of movement, and widening of the airways. These drugs may act on the receptor or the release of the neurotransmitter noradrenaline.

<p>

■ Stimulating alpha-adrenergic receptors causes blood vessels to dilate, sometimes to the extent that gangrene occurs in the fingers and toes, and there is increased blood pressure. This can also cause swelling of the lungs and bleeding in the brain.

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EYE

■ Although the material is not thought to be an irritant, direct contact with the eye may cause transient discomfort characterized by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result.

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SKIN

■ The material is not thought to produce adverse health effects or skin irritation following contact (as classified using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.

■ Open cuts, abraded or irritated skin should not be exposed to this material.

■ Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED

■ The material is not thought to produce respiratory irritation (as classified using animal models). Nevertheless inhalation of dusts, or fume, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress.

■ Inhalation of dusts, generated by the material during the course of normal handling, may be damaging to the health of the individual.

■ Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.

■ Sympathomimetics, which mimic stimulation of the sympathetic nerves, causing a stimulatory effect on the heart and central nervous system, constriction of blood vessels supplying the skin and mucous membranes, dilation of blood vessels supplying muscles of movement, and widening of the airways. These drugs may act on the receptor or the release of the neurotransmitter noradrenaline.

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CHRONIC HEALTH EFFECTS

■ Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.

Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung.

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Repeated administration may produce eczema, lichenoid skin eruptions, urticaria, hyperkeratosis, maculopapular and granulomatous skin eruptions, oral ulcerations and toxic epidermal necrolysis. Ulceration of the sole of the feet, and petechia and ecchymoses on the chest and extremities may also occur. Central nervous system effects include headache, anxiety, drowsiness, cerebrovascular insufficiency, paresthesias, parkinsonism, Bell's palsy, choreoathetotic movements, syncope, decreased mental acuity, psychic disturbances manifested as nightmares, reversible mild psychoses, and depression. A sore or black tongue, sialadenitis, anorexia, weight loss, colitis and pancreatitis may occur. Cardiovascular effects may include carotid sinus hypersensitivity, aggravation of angina pectoris, pericarditis, possible fatal myocarditis, decreased cardiac output, orthostatic hypotension or paradoxical hypertension. Transient abnormalities of liver function, immunologically-mediated hypersensitivity reaction, jaundice, hepatitis, cirrhosis, cholestasis and rare fatal hepatic necrosis may also occur. Blood effects may include positive Coomb's test with or without haemolysis, impaired reticulo-endothelial function, rare haemolytic anaemia, bone marrow depression, reversible leukopenia, fatal aplastic anaemia, granulocytopenia, and eosinophilia. Breast enlargement, disorders of sexual function,

lactation, hyperprolactinaemia, galactorrhea and amenorrhea may occur in woman. In men gynecomastia, decreased libido and impotence may occur. Other effects include nasal stuffiness, nocturia, a rise in bun, mild athralgia, rigors, septic shock-like syndrome, uremia, fluid retention, swelling of the parotid gland, alopecia, blurred vision, retroperitoneal fibrosis and increased serum amylase concentrations. Methyldopa has been associated with biliary carcinoma. Allergic reactions may include drug fever, or lupus-like syndrome. Effects in animals include decreased body weight, lethargy, hyperexcitability, irritability, ocular discharge, kidney tubular cell regeneration, karyomegaly, bone marrow hypoplasia, lesion of the forestomach with oedema, chronic inflammation, epithelial hyperplasia and ulcers, cysts in the kidney and a low incidence of tubular cell hyperplasia, adenomas and adenocarcinomas

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
methyldopa	555-30-6	>98

Section 4 - FIRST AID MEASURES

SWALLOWED

· If swallowed do NOT induce vomiting. · If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

EYE

■ If this product comes in contact with the eyes: · Wash out immediately with fresh running water. · Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

SKIN

■ If skin or hair contact occurs: · Flush skin and hair with running water (and soap if available). · Seek medical attention in event of irritation.

INHALED

· If fumes or combustion products are inhaled remove from contaminated area. · Lay patient down. Keep warm and rested.

NOTES TO PHYSICIAN

■ Treat symptomatically.

In overdose the stomach should be emptied by aspiration and lavage. Intravenous infusions may be necessary to promote urinary excretion and pressor agents such as metaraminol or noradrenaline may be given cautiously. Dialysable.

Absorption varies greatly amongst individuals ranging from 8-16%. The plasma half-life is less than 2 hours. Approximately 70% of the drug which is absorbed is excreted in the urine as methyldopa or its mono-o-sulfate metabolite. alpha-Methylnorepinephrine, a metabolite, is probably the active form of the drug.

Section 5 - FIRE FIGHTING MEASURES

Vapour Pressure (mmHG):	Negligible
Upper Explosive Limit (%):	Not available.
Specific Gravity (water=1):	Not available
Lower Explosive Limit (%):	Not available

EXTINGUISHING MEDIA

· Foam.
· Dry chemical powder.

FIRE FIGHTING

· Alert Emergency Responders and tell them location and nature of hazard.
· Wear breathing apparatus plus protective gloves.

GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS

· Combustible solid which burns but propagates flame with difficulty.
· Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust may burn rapidly and fiercely if ignited.

Combustion products include: carbon monoxide (CO), carbon dioxide (CO₂), nitrogen oxides (NO_x), other pyrolysis products typical of burning organic material.

May emit poisonous fumes.

FIRE INCOMPATIBILITY

■ Avoid contamination with oxidizing agents i.e. nitrates, oxidizing acids, chlorine bleaches, pool chlorine etc. as ignition may result.

PERSONAL PROTECTION

Glasses:
Chemical goggles.
Gloves:

Respirator:
Particulate

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Clean up waste regularly and abnormal spills immediately.
- Avoid breathing dust and contact with skin and eyes.
- Wear protective clothing, gloves, safety glasses and dust respirator.
- Use dry clean up procedures and avoid generating dust.
- Vacuum up or sweep up. NOTE: Vacuum cleaner must be fitted with an exhaust micro filter (HEPA type) (consider explosion-proof machines designed to be grounded during storage and use).
- Dampen with water to prevent dusting before sweeping.
- Place in suitable containers for disposal.

MAJOR SPILLS

- Moderate hazard.
- CAUTION: Advise personnel in area.
- Alert Emergency Responders and tell them location and nature of hazard.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
 - Wear protective clothing when risk of exposure occurs.
- Empty containers may contain residual dust which has the potential to accumulate following settling. Such dusts may explode in the presence of an appropriate ignition source.
- Do NOT cut, drill, grind or weld such containers.
 - In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorisation or permit.

RECOMMENDED STORAGE METHODS

- Glass container.
- Polyethylene or polypropylene container.
- Check all containers are clearly labelled and free from leaks.

STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

The following materials had no OELs on our records

- methyl dopa: CAS:555-30-6 CAS:41372-08-1

PERSONAL PROTECTION



RESPIRATOR

Particulate
Consult your EHS staff for recommendations

EYE

- When handling very small quantities of the material eye protection may not be required.
- For laboratory, larger scale or bulk handling or where regular exposure in an occupational setting occurs:
- Chemical goggles
 - Face shield. Full face shield may be required for supplementary but never for primary protection of eyes
 - Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens

absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

HANDS/FEET

■ Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: such as:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739).

· When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended.

· When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended.

· Contaminated gloves should be replaced.

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

· Rubber gloves (nitrile or low-protein, powder-free latex). Employees allergic to latex gloves should use nitrile gloves in preference.

· Double gloving should be considered.

· PVC gloves.

· Protective shoe covers.

· Head covering.

Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.

· polychloroprene

· nitrile rubber

· butyl rubber

· fluorocarbon

· polyvinyl chloride

Gloves should be examined for wear and/ or degradation constantly.

OTHER

· For quantities up to 500 grams a laboratory coat may be suitable.

· For quantities up to 1 kilogram a disposable laboratory coat or coverall of low permeability is recommended. Coveralls should be buttoned at collar and cuffs.

· For quantities over 1 kilogram and manufacturing operations, wear disposable coverall of low permeability and disposable shoe covers.

· For manufacturing operations, air-supplied full body suits may be required for the provision of advanced respiratory protection.

· Eye wash unit.

· Ensure there is ready access to an emergency shower.

· For Emergencies: Vinyl suit.

ENGINEERING CONTROLS

■ Enclosed local exhaust ventilation is required at points of dust, fume or vapor generation.

HEPA terminated local exhaust ventilation should be considered at point of generation of dust, fumes or vapors.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Solid.

Does not mix with water.

State	Divided solid	Molecular Weight	238.2 (.1/2H ₂ O)
Melting Range (°F)	590	Viscosity	Not Applicable
Boiling Range (°F)	Not available	Solubility in water (g/L)	Partly miscible
Flash Point (°F)	Not available	pH (1% solution)	Not available
Decomposition Temp (°F)	Not available.	pH (as supplied)	Not applicable
Autoignition Temp (°F)	Not available	Vapour Pressure (mmHG)	Negligible
Upper Explosive Limit (%)	Not available.	Specific Gravity (water=1)	Not available
Lower Explosive Limit (%)	Not available	Relative Vapor Density (air=1)	>1
Volatile Component (%vol)	Negligible	Evaporation Rate	Not applicable

APPEARANCE

Colourless crystals or white to yellowish-white odourless, almost tasteless, fine powder which may contain friable lumps; does not mix well with water (1:100), alcohol (1:400). Soluble in dilute hydrochloric acid (1:0.5).

Section 10 - CHEMICAL STABILITY

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.

STORAGE INCOMPATIBILITY

- Avoid reaction with oxidizing agents.

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

METHYLDOPA

TOXICITY AND IRRITATION

METHYLDOPA:

- unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY

IRRITATION

Oral (rat) LD50: 5000 mg/kg Nil Reported

Intraperitoneal (rat) LD50: 300 mg/kg

Oral (mouse) LD50: 5300 mg/kg

Intraperitoneal (mouse) LD50: 150 mg/kg

Intravenous (mouse) LD50: 1700 mg/kg

Oral (rabbit) LD50: 713 mg/kg

Intravenous (rabbit) LD50: 713 mg/kg

Fasciculation, hallucinations, tremor, increased pulse rate, lowered blood pressure, allergic dermatitis after systemic exposure, paternal effects, effects on fertility, effects on newborn recorded.

Section 12 - ECOLOGICAL INFORMATION

No data

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
methyldopa	HIGH		LOW	MED

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Instructions

All waste must be handled in accordance with local, state and federal regulations.

‡ Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

DO NOT allow wash water from cleaning equipment to enter drains. Collect all wash water for treatment before disposal.

- Recycle wherever possible.
- Consult manufacturer for recycling options or consult Waste Management Authority for disposal if no suitable treatment or disposal facility can be identified.

Section 14 - TRANSPORTATION INFORMATION

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: DOT, IATA, IMDG

Section 15 - REGULATORY INFORMATION

methyldopa (CAS: 555-30-6,41372-08-1) is found on the following regulatory lists;

"Canada Domestic Substances List (DSL)", "US Toxic Substances Control Act (TSCA) - Inventory"

Section 16 - OTHER INFORMATION

Ingredients with multiple CAS Nos

Ingredient Name CAS methyldopa 555-30-6, 41372-08-1

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■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net/references.

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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