

## Chemical Safety Data Sheet MSDS / SDS

## Methyldopa

Revision Date:2024-04-27 Revision Number:1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

## Product identifier

Product name : Methyldopa  
CBnumber : CB4277127  
CAS : 555-30-6  
EINECS Number : 209-089-2  
Synonyms : AMD, Methyl Dopa

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

## Company Identification

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 400-158-6606

## SECTION 2: Hazards identification

## Classification of the substance or mixture

Reproductive toxicity, Category 2

## Label elements

## Pictogram(s)

□

Signal word Warning

## Hazard statement(s)

H361 Suspected of damaging fertility or the unborn child

## Precautionary statement(s)

## Prevention

P203 Obtain, read and follow all safety instructions before use.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

## Response

P318 IF exposed or concerned, get medical advice.

## Storage

P405 Store locked up.

#### **Disposal**

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

#### **Other hazards**

no data available

---

## SECTION 3: Composition/information on ingredients

### **Substance**

Product name	: Methyldopa
Synonyms	: AMD, Methyl Dopa
CAS	: 555-30-6
EC number	: 209-089-2
MF	: C <sub>10</sub> H <sub>13</sub> NO <sub>4</sub>
MW	: 211.22

---

## SECTION 4: First aid measures

### **Description of first aid measures**

#### **If inhaled**

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

#### **Following skin contact**

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

#### **Following eye contact**

Rinse with pure water for at least 15 minutes. Consult a doctor.

#### **Following ingestion**

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

### **Most important symptoms and effects, both acute and delayed**

SYMPTOMS: Symptoms of exposure to this compound include edema (fluid retention), fever, diarrhea, mental depression, hepatic toxicity, arthralgia (with or without joint swelling), leukopenia, breast enlargement, amenorrhea, pancreatitis, myocarditis and hemolytic anemia. Parkinsonism, hypertension and galactorrhea (lactation) may occur. Reversible keratitis may also occur. Other symptoms include sedation (usually transient), asthenia, congestive heart failure, weight gain, vomiting, sialadenitis, sore or "black" tongue, distention, flatus, hyperprolactinemia, bone marrow depression, rheumatoid factor, abnormal liver function tests, pericarditis, decreased mental acuity, symptoms of cerebrovascular insufficiency, psychic disturbances including nightmares and reversible mild psychoses, rise in BUN, toxic epidermal necrosis and decreased libido. Exposure can cause headache, weakness, aggravation of angina pectoris, prolonged carotid sinus hypersensitivity, postural hypotension, bradycardia, colitis, nausea, constipation, dryness of the mouth, granulocytopenia, thrombocytopenia, positive tests for antinuclear antibody, LE cells, positive Coombs test, liver disorders including hepatitis and jaundice, lupus-like syndrome,

Bell's palsy, involuntary choreoathetotic movements, dizziness, lightheadedness, paresthesias, myalgia, nasal stuffiness, skin rash and impotence. Exposure can also cause drowsiness, gastrointestinal upset, disorders of sexual function, salivary gland inflammation, uremia, liver damage (including cirrhosis), darkened urine, eosinophilia, syncope, cholestasis, eczema, oral ulceration, hyperpyrexia, ocular disturbances, febrile reaction, joint pain, nodular skin lesions, retroperitoneal fibrosis and biliary carcinoma. There has been a case of reversible malabsorption with partial villous atrophy, inflammatory infiltrate of the mucosa and giant-cell granuloma. Other symptoms may include sleep disturbances, anxiety, blurred vision, hepatic necrosis and lichenoid and granulomatous skin reactions. It may also cause menstrual cycle changes or disorders and effects on the newborn including abnormal neonatal measures, growth statistics and biochemical and metabolic changes. ACUTE/CHRONIC HAZARDS: When heated to decomposition this compound emits toxic fumes of nitrogen oxides. (NTP, 1992)

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

After discontinuation of methyl dopa... hemolytic anemia usually resolves within a matter of weeks. severe hemolysis may be attenuated by treatment with glucocorticoids.

---

## SECTION 5: Firefighting measures

### Extinguishing media

Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

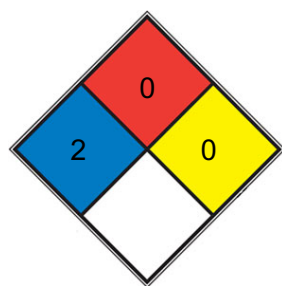
### Specific Hazards Arising from the Chemical

Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)

### Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### NFPA 704



**HEALTH 2** Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. [diethyl ether](#), ammonium phosphate, iodine)

**FIRE 0** Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 820 °C (1,500 °F) for a period of 5 minutes.(e.g. Carbon tetrachloride)

**REACT 0** Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium,[N2](#))

**SPEC.**  
**HAZ.**

---

## SECTION 6: Accidental release measures

## **Personal precautions, protective equipment and emergency procedures**

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

## **Environmental precautions**

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

## **Methods and materials for containment and cleaning up**

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

---

# SECTION 7: Handling and storage

## **Precautions for safe handling**

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

## **Conditions for safe storage, including any incompatibilities**

Methyldopa oral suspension should be stored in tight, light-resistant containers at a temperature less than 26 deg C and protected from freezing. Methyldopa tablets should be stored in well-closed containers at a temperature less than 40 deg C, preferably at 15-30 deg C.

---

# SECTION 8: Exposure controls/personal protection

## **Control parameters**

### **Occupational Exposure limit values**

no data available

### **Biological limit values**

no data available

## **Exposure controls**

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

## **Individual protection measures**

### **Eye/face protection**

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

### **Skin protection**

Wear fire/flammable resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

### Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

### Thermal hazards

no data available

---

## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

Physical state	PHYSICAL DESCRIPTION: Colorless or almost colorless crystals or white to yellowish-white fine powder. Almost tasteless. In the sesquihydrate form. pH (saturated aqueous solution) about 5.0. (NTP, 1992)
Colour	Minute, anhyd crystals from methanol
Odour	ODORLESS
Melting point/freezing point	182°C(lit.)
Boiling point or initial boiling point and boiling range	70°C/32mmHg(lit.)
Flammability	no data available
Lower and upper explosion limit/flammability limit	no data available
Flash point	52°C(lit.)
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	pH of saturated aq soln about 5.0
Kinematic viscosity	no data available
Solubility	Soluble in DMSO (75 mM), water, and dilute hydrochloric acid.
Partition coefficient n-octanol/water	no data available
Vapour pressure	no data available
Density and/or relative density	1.403g/cm <sup>3</sup>
Relative vapour density	no data available
Particle characteristics	no data available

---

## SECTION 10: Stability and reactivity

### Reactivity

Very hygroscopic. Slightly water soluble. May be sensitive to prolonged exposure to air and light. The stability of aqueous solutions is markedly dependent on pH, oxygen and the amount of initial reactant. Aqueous solutions are stable for up to 50 hours in acid and neutral pH (6.2). At pH 8.0, decomposition products are formed in 3 to 5 hours. Solutions develop a red tint that becomes progressively darker (eventually forming a black precipitate).

### Chemical stability

Relatively stable in both light & air

### **Possibility of hazardous reactions**

METHYL DOPA undergoes catalytic oxygenation in the presence of magnesium, cupric, cobalt, nickel and ferric ions (NTP, 1992). A weakly acidic amino acid.

### **Conditions to avoid**

no data available

### **Incompatible materials**

no data available

### **Hazardous decomposition products**

When heated to decomposition it emits toxic fumes of nitroxides.

---

## **SECTION 11: Toxicological information**

### **Acute toxicity**

- Oral: LD50 Rat oral 5000 mg/kg
- Inhalation: no data available
- Dermal: no data available

### **Skin corrosion/irritation**

no data available

### **Serious eye damage/irritation**

no data available

### **Respiratory or skin sensitization**

no data available

### **Germ cell mutagenicity**

no data available

### **Carcinogenicity**

no data available

### **Reproductive toxicity**

no data available

### **STOT-single exposure**

no data available

### **STOT-repeated exposure**

no data available

### **Aspiration hazard**

no data available

---

## SECTION 12: Ecological information

### **Toxicity**

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

### **Persistence and degradability**

no data available

### **Bioaccumulative potential**

no data available

### **Mobility in soil**

no data available

### **Other adverse effects**

no data available

---

## SECTION 13: Disposal considerations

### **Disposal methods**

#### **Product**

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### **Contaminated packaging**

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

---

## SECTION 14: Transport information

### **UN Number**

ADR/RID: UN1993 (For reference only, please check.)

IMDG: UN1993 (For reference only, please check.)

IATA: UN1993 (For reference only, please check.)

### **UN Proper Shipping Name**

ADR/RID: FLAMMABLE LIQUID, N.O.S. (For reference only, please check.)

IMDG: FLAMMABLE LIQUID, N.O.S. (For reference only, please check.)

IATA: FLAMMABLE LIQUID, N.O.S. (For reference only, please check.)

### **Transport hazard class(es)**

ADR/RID: 3 (For reference only, please check.)

IMDG: 3 (For reference only, please check.)

IATA: 3 (For reference only, please check.)

### **Packing group, if applicable**

ADR/RID: I (For reference only, please check.)

IMDG: I (For reference only, please check.)

IATA: I (For reference only, please check.)

### **Environmental hazards**

ADR/RID: No

IMDG: No

IATA: No

### **Special precautions for user**

no data available

### **Transport in bulk according to IMO instruments**

no data available

---

## **SECTION 15: Regulatory information**

### **Safety, health and environmental regulations specific for the product in question**

#### **European Inventory of Existing Commercial Chemical Substances (EINECS)**

Listed.

#### **EC Inventory**

Listed.

#### **United States Toxic Substances Control Act (TSCA) Inventory**

Listed.

#### **China Catalog of Hazardous chemicals 2015**

Not Listed.

#### **New Zealand Inventory of Chemicals (NZIoC)**

Listed.

#### **PICCS**

Not Listed.

#### **Vietnam National Chemical Inventory**

Listed.

#### **IECSC**

Not Listed.



## Korea Existing Chemicals List (KECL)

Listed.

---

## SECTION 16: Other information

### Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

### References

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pagelD=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pagelD=0&request_locale=en)

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

#### Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.