

SAFETY DATA SHEET

Version: v2
Revision Date: 2026-01-27
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : 4,4'-Diaminodiphenylmethane
Product Number : D108781
Brand : aladdin
CAS-No. : 101-77-9

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

Identified uses : Laboratory chemicals, Manufacture of substances.

1.3 Company

Company : ALADDIN SCIENTIFIC CORPORATION
Address : 14078 Meridian Parkway,
Riverside, CA. 92518
Telephone : +1 (833) 552-7181
Fax : no data available

1.4 Emergency telephone number

CHEMTREC®, Inside the USA : 1-800-424-9300
CHEMTREC®, Outside the USA :

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 3), H301

Skin sensitization (Category 1), H317

Germ cell mutagenicity (Category 2), H341

Carcinogenicity (Category 1B), H350

Specific target organ toxicity - single exposure (Category 1), Liver, eye - retina, H370

Specific target organ toxicity - repeated exposure (Category 2), Liver, H373

Short-term (acute) aquatic hazard (Category 1), H400

Long-term (chronic) aquatic hazard (Category 2), H411

2.2 GHS Label elements, including precautionary statements

Pictogram



Danger

Signal word

Hazard statement(s)

H301	Toxic if swallowed
H317	May cause an allergic skin reaction
H341	Suspected of causing genetic defects
H351	Suspected of causing cancer
H370	Causes damage to organs
H373	Causes damage to organs through prolonged or repeated exposure
H401	Toxic to aquatic life

Precautionary statement(s)

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands [and ...] thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P310	Immediately call a POISON CENTER or doctor/physician.
P330	Rinse mouth.
P391	Collect spillage.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/...
P302+P352	IF ON SKIN: wash with plenty of water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
P308+P311	IF exposed or concerned: Call a POISON CENTER/doctor/...
P333+P313	IF SKIN irritation or rash occurs: Get medical advice/attention.
P405	Store locked up.
P501	Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	: MDA;4,4'-Methylenedianiline
Formula	: C13H14N2
Molecular weight	: 198.28
CAS No.	: 101-77-9
EC-NO.	: 202-974-4

Component	Classification	Concentration
4,4'- Diaminodiphenylmethane		
	no data available	Standard for GC, ≥99%(GC)

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician.Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air.If not breathing, give artificial respiration.Consult a physician.

In case of skin contact

Wash off with soap and plenty of water.Take victim immediately to hospital.Consult a physician.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately.In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

4.2 Most important symptoms and effects, both acute and delayed

no data available

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water,Foam,Carbon dioxide (CO₂),Dry powder

Unsuitable extinguishing media

no data available

5.2 Special hazards arising from the substance or mixture

Carbon oxides,Nitrogen oxides (NO_x).Combustible.Vapors are heavier than air and may spread along floors.Forms explosive mixtures with air on intense heating.Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions(see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area.Avoid generation of dusts.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Work under hood. Do not inhale substance/mixture.

7.2 Conditions for safe storage, including any incompatibilities

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons. Store at room temperature.

7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	form: Solid color: White to Yellow
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	91.5-92°C
f) Initial boiling point and boiling range	398 - 399 °C
g) Flash point	230 °C
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	no data available
n) Water solubility	Insoluble in water, easily soluble in ethanol, ether and benzene.
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties N	no data available
t) Oxidizing properties N	no data available

9.2 Other safety information

no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

Strong heating.

10.5 Incompatible materials

Oxidizing agents

10.6 Hazardous decomposition products

no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 100 mg/kg

Remarks: Liver:Other changes.

(RTECS)

LC50 Inhalation - Rat - male and female - 6 h - > 0,46 mg/l

(OECD Test Guideline 403)

LD50 Dermal - Rat - male and female - > 2.500 mg/kg

Remarks: (50% solution)

(ECHA)

Skin corrosion/irritation

Skin - Rabbit. Result: No skin irritation - 24 h Remarks: (ECHA)

Serious eye damage/eye irritation

Eyes - Rabbit. Result: No eye irritation Remarks: (ECHA)

Respiratory or skin sensitisation

Maximization Test - Guinea pig. Result: positive (OECD Test Guideline 406)

Germ cell mutagenicity

2B - Group 2B: Possibly carcinogenic to humans (4,4-Methylenedianiline)

Carcinogenicity

no data available

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

Causes damage to organs. - Liver, eye - retina

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure. - Liver

Aspiration hazard

Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 39 mg/l - 96.0 h Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 2.3 mg/l - 24 h

Additional Information

Repeated dose toxicity - Guinea pig - male - Inhalation - 10 Days

Remarks: (ECHA)

RTECS: BY5425000

Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer., Fever,Vomiting.

Prolonged or repeated exposure can cause:Kidney injury may occur.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish : semi-static test LC50 - Oryzias latipes - 20,6 mg/l - 96 h

(OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates : static test EC50 - Daphnia magna (Water flea) - 0,35 mg/l - 48 h

(OECD Test Guideline 202)

Toxicity to algae static : test ErC50 - Pseudokirchneriella subcapitata (green algae) - 14,4 mg/l - 72 h

(OECD Test Guideline 201)

Toxicity to bacteria : EC50 - activated sludge - > 100 mg/l - 3 h

(OECD Test Guideline 209)

12.2 Persistence and degradability

aerobic - Exposure time 28 d. Result: 46 % - Not readily biodegradable. (OECD Test Guideline 301B)

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

no data available

SECTION 13:

13.1 Disposal considerations

Product
Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

DOT (US)		
UN number: 2651	Packing group: III	Class: 6.1
Proper shipping name: 4,4-Diaminodiphenyl methane	Reportable Quantity(RQ):no data available	Poison Inhalation Hazard:no data available
Environmental Hazards: Yes		
IMDG		
UN number: 2651	Packing group: III	EMS-No:no data available
Proper shipping name: 4,4-Diaminodiphenyl methane		
IATA		
UN number: 2651	Packing group: III	Class: 6.1
Proper shipping name: 4,4-Diaminodiphenyl methane		

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

SECTION 16: Other information



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SDS sections updated v2

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