

SAFETY DATA SHEET

Version: v1

Revision Date: 2025-09-17

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

1.1 Product identifiers

Product name : o-Phenylenediamine
Product Number : P103813
Brand : aladdin
CAS-No. : 95-54-5

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
Acute toxicity, Inhalation (Category 4), H332
Acute toxicity, Dermal (Category 4), H312
Serious eye damage/eye irritation (Category 2A), H319
Skin sensitization (Category 1), H317
Germ cell mutagenicity (Category 2), H341
Carcinogenicity (Category 2), H351
Short-term (acute) aquatic hazard (Category 1), H400
Long-term (chronic) aquatic hazard (Category 1), H410

2.2 GHS Label elements, including precautionary statements

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Pictogram



Danger

Signal word

Hazard statement(s)

H301	Toxic if swallowed
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H341	Suspected of causing genetic defects
H351	Suspected of causing cancer
H410	Very toxic to aquatic life with long lasting effects
H312+H332	Harmful in contact with skin or if inhaled

Precautionary statement(s)

P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash hands [and ...] thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
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.
P281	Use personal protective equipment as required.
P321	Specific treatment (see ... on this label).
P330	Rinse mouth.
P391	Collect spillage.
P302+P352	IF ON SKIN: wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
P333+P313	IF SKIN irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P405	Store locked up.
P501	Dispose of contents/container to an approved waste disposal plant.
P203	Obtain, read and follow all safety instructions before use.
P264+P265	Wash hands [and ...] thoroughly after handling. Do not touch eyes.
P301+P316	IF SWALLOWED: Get emergency medical help immediately.
P318	if exposed or concerned, get medical advice.
P317	Get emergency medical help.
P337+P317	If eye irritation persists: Get medical help.

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

SECTION 3: Composition/information on ingredients

Phone: +1 (833) 552-7181 Email: QualityAssurance@aladdinsci.com Website: <https://www.aladdinsci.com/>

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3.1 Substances

Synonyms	: 1,2-Diaminobenzene OPD
Formula	: C ₆ H ₈ N ₂
Molecular weight	: 108.14
CAS No.	: 95-54-5
EC-NO.	: 202-430-6

Component	Classification	Concentration
o-Phenylenediamine	Acute toxicity Category 3; Acute toxicity Category 4; Serious eye damage/eye irritation Category 2A; Skin sensitization Category 1; Germ cell mutagenicity Category 2; Carcinogenicity Category 2; Short-term (acute) aquatic hazard Category 1; Long-term (chronic) aquatic hazard Category 1; H301, H332, H312, H319, H317, H341, H351, H400, H410 M-Factor - Aquatic Acute: 1 - Aquatic Chronic: 1	Biochemical, ≥99%

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

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

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no data available

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products formed under fire conditions.- Carbon oxides, nitrogen oxides (NOx)

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**

Wear respiratory protection.Avoid dust formation.Avoid breathing vapors, mist or gas.Ensure adequate ventilation.Evacuate personnel to safe areas.Avoid breathing dust.

6.2 Environmental precautions

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

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust.Sweep up and shovel.Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

no data available

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Avoid contact with skin and eyes.Avoid formation of dust and aerosols.Provide appropriate exhaust ventilation at places where dust is formed.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Sensitive to light and air. 2-8 °C stored in a dark and argon filled atmosphere.

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

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

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

no data available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	form: Flakes color: pale brown
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	103-104°C
f) Initial boiling point and boiling range	256 ~ 258°C
g) Flash point	136°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	1.27
n) Water solubility	Soluble in water; Solubility in water: 41 g/l 35 ° C; Highly soluble in chloroform, alcohol, and ether; Soluble in acetone and benzene

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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

Stable under recommended storage conditions.

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

Violent reactions possible with: Strong oxidizing agents Strong acids Acid anhydrides acid halides

10.4 Conditions to avoid

Strong heating.

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

Oral LD50 LD50 Oral - rat - 510 mg/kg Remarks: Autonomic Nervous System:Other (direct)
parasympathomimetic.Behavioral:Convulsions or effect on seizure threshold.Behavioral:Muscle weakness. LD50 Oral
- mouse - 366 mg/kg LD50 Oral - rat - 1,070 mg/kg Inhalation LC50 LC50 Inhalation - rat - 4 h - 3.4 mg/l

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute toxicity estimate Oral - 100.1 mg/kg

(Expert judgment)

Remarks: (Regulation (EC) No 1272/2008, Annex VI)

LC50 Inhalation - Rat - male - 4 h - 3.6 mg/l - dust/mist

Remarks: (Regulation (EC) No 1272/2008, Annex VI)

Acute toxicity estimate Dermal - 1,100.1 mg/kg

(Expert judgment)

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Remarks: (Regulation (EC) No 1272/2008, Annex VI)

LDLo Dermal - Rabbit - 1,500 mg/kg

Remarks: (RTECS)

Skin corrosion/irritation

Skin - Rabbit Result: No skin irritation - 4 h (OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit Result: Eye irritation - 72 h (OECD Test Guideline 405)

Respiratory or skin sensitisation

Maximization Test - Guinea pig Result: May cause sensitization by skin contact.

Germ cell mutagenicity

In vitro tests showed mutagenic effects Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: Metabolic activation Method: OECD Test Guideline 471 Result: positive Test Type: Micronucleus test Species: Guinea pig Application Route: Intraperitoneal Result: positive Remarks: (ECHA)

Carcinogenicity

Limited evidence of carcinogenicity in animal studies

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Additional Information

Repeated dose toxicity - Rat - male - Oral - NOAEL (No observed adverse effect level) - 400 mg/kg Exposure can cause numbness, tingling, and weakness in extremities, Nausea, Dizziness, Headache, Central nervous system depression

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 flow-through test LC50 - Oncorhynchus mykiss (rainbow trout) - 42.9mg/l - 96 h

Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates

semi-static test EC50 - Daphnia magna (Water flea) - 1.4 mg/l - 48h

Remarks: (ECHA)

Toxicity to algae static test EC50 - Pseudokirchneriella subcapitata - 0.16 mg/l - 96 h

Remarks: (ECHA)

Toxicity to bacteria EC50 - Bacteria - 580 mg/l - 3 h

(OECD Test Guideline 209)

Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)

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semi-static test NOEC - Daphnia magna (Water flea) - 0.065 mg/l -21 d

Remarks: (ECHA)

semi-static test EC50 - Daphnia magna (Water flea) - 0.46 mg/l - 21d

Remarks: (ECHA)

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d Result: 0 % - Not biodegradable

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

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. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

UN number: 1673

Packing group: III

Class: 6.1

Proper shipping name:

Reportable Quantity(RQ): no data available

Poison Inhalation Hazard: no data available

Phenylenediamines

Environmental Hazards: YES

IMDG

UN number: 1673

Packing group: III

EMS-No: no data available

Proper shipping name: Phenylenediamines

IATA

UN number: 1673

Packing group: III

Class: 6.1

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Proper shipping name: Phenylenediamines

SECTION 15: Regulatory information

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

SECTION 16: Other information

Prepared By	Regulatory Affairs ALADDIN SCIENTIFIC CORPORATION Email: QualityAssurance@aladdinsci.com
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