

SAFETY DATA SHEET

Version: v1

Revision Date: 2025-10-15

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

1.1 Product identifiers

Product name : 4,4'-Diaminodiphenyl Sulfone (DDS)
Product Number : D105858
Brand : aladdin
CAS-No. : 80-08-0

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 4), H302

Reproductive toxicity (Category 1B), H360

Specific target organ systemic toxicity (single exposure) (Category 2), blood, H371

Specific target organ systemic toxicity (repeated exposure) (Category 2), blood, spleen, liver, H373

Acute (short-term) aquatic hazard (Category 2), H401

Long term aquatic hazard (category 2), H411

2.2 GHS Label elements, including precautionary statements

Pictogram



Danger

Signal word

Hazard statement(s)

| | |
|-----------------------------------|--|
| H302 | Harmful if swallowed |
| H360 | May damage fertility or the unborn child |
| H371 | May cause damage to organs |
| H373 | Causes damage to organs through prolonged or repeated exposure |
| H411 | Toxic to aquatic life with long lasting effects |
| Precautionary statement(s) | |
| 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. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P330 | Rinse mouth. |
| P391 | Collect spillage. |
| 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/... |
| P405 | Store locked up. |
| P501 | Dispose of contents/container to an approved waste disposal plant. |
| P301+P312+P330 | IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth. |

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

Additional precautionary phrases are located throughout the safety data sheet.

SECTION 3: Composition/information on ingredients

3.1 Substances

| | |
|------------------|--|
| Synonyms | : 4,4'-Diaminodiphenyl sulfone ;4,4'-Sulfonyldianiline;4,4'-Sulfonyldianiline ;4-Aminophenyl sulfone DDS ;Bis(4-aminophenyl) sulfone DDS |
| Formula | : C12H12N2O2S |
| Molecular weight | : 248.3 |
| CAS No. | : 80-08-0 |
| EC-NO. | : 201-248-4 |

| Component | Classification | Concentration |
|---|-------------------|--------------------|
| 4,4'-Diaminodiphenyl Sulfone (DDS) | no data available | Moligand™, ≥97% |

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

Take off contaminated clothing and shoes immediately. 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. Continue rinsing eyes during transport to hospital.

If swallowed

Do NOT induce vomiting. 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

The most important known symptoms and effects are described in the labelling (see section 2.2)

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 Sulfur oxides Flammable When caught on fire, it may cause the production of hazardous gases or vapors

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. Do not attempt to take action without suitable protective clothing. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains or river. Alert the neighbourhood to the presence of fumes or gas.

6.3 Methods and materials for containment and cleaning up

Mix with sand or vermiculite. Sweep up and shovel. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Wash hands thoroughly after handling. Ensure there is sufficient ventilation of the area. Normal measures for preventive fire protection. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Sensitive to humidity and light, 2-8 °C, stored away from light

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 EN166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's 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. The selected protective gloves have to satisfy the specifications of Regulation (EU)2016/425 and the standard EN 374 derived from it.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, 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 fullface 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

If safety requires, prevent further leakage or spillage. Do not let the product enter the sewer.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

| | |
|---|--|
| a) Appearance | form: Crystal - Powder color: White to Tan |
| b) Odour | no data available |
| c) Odour Threshold | no data available |
| d) pH | no data available |
| e) Melting point/freezing point | 173-178°C |
| f) Initial boiling point and boiling range | no data available |
| g) Flash point | no data available |
| 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 | 1.361 |
| n) Water solubility | no data available |
| 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

Possible violent reactions may occur with it: strong oxidizing agent

10.4 Conditions to avoid

shine

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

Carbon monoxide, Carbon dioxide, Nitrogen oxides, Oxides of sulfur.

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity**

LD50 Oral - Rat - 1000 mg/kg

Symptoms: Nausea, vomiting, headache

Note: (RTECS)

Inhalation: No data available

LD50 transdermal rabbit male and female ->2000 mg/kg
(US-EPA)

Skin corrosion/irritation

Skin - Rabbit Result: No skin irritation -4 hours (OECD Testing Guideline 404)

Serious eye damage/eye irritation

Eyes - Cow Horn Membrane Result: No eye irritation -4 hours (OECD Testing Guideline 437)

Respiratory or skin sensitisation

Local lymph node assay (LLNA) - Mouse Result: Negative (OECD Testing Guideline 429)

Germ cell mutagenicity

Test type: In vitro mammalian cell gene mutation assay Testing System: Mouse Lymphoma Cells Metabolic activation: with or without metabolic activation effect Method: OECD Testing Guidelines 476 Result: Negative Test type: Ames test Testing system: Escherichia coli/Salmonella typhimurium Metabolic activation: with or without metabolic activation effect Method: OECD Testing Guideline 471 Result: Negative Test type: Mutational (mammalian cell test): Chromosomal mutation negative Testing System: Human Lymphocytes Metabolic activation: No metabolic activation Method: OECD Testing Guideline 473 Result: Positive Test type: Micronucleus test Species: Mouse Cell type: Red blood cells (erythrocytes) Route of infection: Oral route Method: OECD Testing Guidelines 474 Result: Negative

Carcinogenicity

This product is not or does not contain components listed as carcinogens by IARC, ACGIH, EPA, and NTP

Reproductive toxicity

May cause harm to fertility.

Specific target organ toxicity - single exposure

May damage organs. -Blood

Specific target organ toxicity - repeated exposure

Long term or repeated exposure may damage organs. -Blood, spleen, liver

Aspiration hazard

no data available

Additional Information

Repeated toxicity - rat - male and female - oral -90 days - level with no observed harmful effects ->3-<30 mg/kg

Registration of Toxic Effects of Chemical Substances: BY8925000

Can lead to insufficient glucose-6-phosphate dehydrogenase in some people's red blood cells, hemolytic anemia, hematological disorders, and granulocyte deficiency

To our knowledge, the chemical, physical, and toxic properties of this substance have not been fully studied.

SECTION 12: Ecological information

12.1 Toxicity

Static toxicity test on fish LC50- Cyprinus carpio ->100 mg/l -96 h

(OECD Testing Guidelines 203)

Static toxicity test on algae ErC50- Pseudokirchneriella subcapita (green algae) - approximately 2.7 mg/l -72 hours

(OECD Testing Guidelines 201)

Semi static test for toxicity (chronic toxicity) to water fleas and other aquatic invertebrates NOEC - Daphnia magna - 0.46 mg/l -21 days

(OECD Testing Guideline 211)

12.2 Persistence and degradability

no data available

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

Consult state, local or national regulations for proper disposal. Hand over to authorised disposal company as hazardous waste.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

| | | |
|----------------------------|----------------------------------|-----------------------------------|
| UN number: 3077 | Packing group: III | Class: 9 |
| Proper shipping name: | Reportable Quantity(RQ): no data | Poison Inhalation Hazard: no data |
| ENVIRONMENTALLY HAZARDOUS | available | available |
| SUBSTANCE, SOLID, N.O.S. | | |
| Environmental Hazards: yes | | |

IMDG

| | | |
|--|--------------------|---------------------------|
| UN number: 3077 | Packing group: III | EMS-No: no data available |
| Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. | | |

IATA

| | | |
|--|--------------------|----------|
| UN number: 3077 | Packing group: III | Class: 9 |
| Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. | | |

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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Revision Summary

SDS sections updated v1

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