

SAFETY DATA SHEET

1. PRODUCT

1.1 Product identifiers

Name: N,N-Dimethyl-p-phenylenediamine

CAS-No.: 99-98-9

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

Identified uses : Laboratory chemicals, Manufacture of substances

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 2), H300

Acute toxicity, Inhalation (Category 3), H331

Acute toxicity, Dermal (Category 1), H310

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram	
Signal word	Danger
Hazard statement(s)	H300 + H310 Fatal if swallowed or in contact with skin H331 Toxic if inhaled.
Precautionary statement(s)	P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. P262 Do not get in eyes, on skin, or on clothing. P264 Wash skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/ protective clothing. P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. P302 + P350 IF ON SKIN: Gently wash with plenty of soap and water. P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P310 Immediately call a POISON CENTER or doctor/ physician. P322 Specific measures (see supplemental first aid instructions on this label). P330 Rinse mouth. P361 Remove/ Take off immediately all contaminated clothing. P363 Wash contaminated clothing before reuse. P403 + P233 Store in a well-ventilated place. Keep container tightly closed. 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

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms: 4-Amino-N,N-dimethylaniline
4-(Dimethylamino)aniline
DMPPDA

Formula: $C_8H_{12}N_2$

Molecular weight: 136.19 g/mol
CAS-No.: 99-98-9
EC-No.: 202-807-5

Hazardous components

Component	Classification	Concentration
4-Amino-N,N-dimethylaniline	Acute Tox. 2; Acute Tox. 3; Acute Tox. 1; H300 + H310, H331	-

For the full text of the H-Statements mentioned in this Section, see Section 16.

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
Flush eyes with water as a precaution.
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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.2 Indication of any immediate medical attention and special treatment needed

No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NOx)

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

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.

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.

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

For disposal see section 13.

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.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature 2 - 8 °C

Light sensitive. Store under inert gas. Air sensitive.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

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 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. Full contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M) Splash contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.
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.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Form: solid
Odour	No data available
Odour Threshold	No data available
pH	No data available
Melting point/freezing point	Melting point/range: 34 - 36 °C (93 - 97 °F)
Initial boiling point and boiling range	262 °C (504 °F)
Flash point	91 °C (196 °F) - closed cup
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density	No data available
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

9.2 Other safety information

No data available

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

No data available

10.5 Incompatible materials

Acid chlorides, Acid anhydrides

10.6 Hazardous decomposition products

Other decomposition products - No data available

In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Mouse - 30 mg/kg Remarks: Behavioral:Tremor. Behavioral:Convulsions or effect on seizure threshold. Inhalation: No data available LD50 Dermal - Guinea pig - 0.5 mg/kg LD50 Intraperitoneal - Rabbit - 100 mg/kg Remarks: Behavioral:Convulsions or effect on seizure threshold. Behavioral:Excitement. LD50 Intraperitoneal - Rat - 21 mg/kg Remarks: Behavioral:Convulsions or effect on seizure threshold. Behavioral:Excitement. LD50 Intraperitoneal - Mouse - 25 mg/kg LD50 Intraperitoneal - Guinea pig - 45 mg/kg Remarks: Behavioral:Convulsions or effect on seizure threshold. Behavioral:Excitement.
Skin corrosion/irritation
No data available
Serious eye damage/eye irritation
No data available
Respiratory or skin sensitisation
Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.
Germ cell mutagenicity
Rat Liver Unscheduled DNA synthesis Hamster Lungs Cytogenetic analysis Ames test S. typhimurium
Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive toxicity
No data available 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
RTECS: ST0874000 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., May cause convulsions., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

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.

14. TRANSPORT INFORMATION

DOT (US)

UN number: 2811 Class: 6.1 Packing group: II

Proper shipping name: Toxic solids, organic, n.o.s. (4-Amino-N,N-dimethylaniline)

Reportable Quantity (RQ):

Marine pollutant: No

Poison Inhalation Hazard: No

IMDG

UN number: 2811 Class: 6.1 Packing group: II EMS-No: F-A, S-A

Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (4-Amino-N,N-dimethylaniline)

Marine pollutant: No

IATA

UN number: 2811 Class: 6.1 Packing group: II

Proper shipping name: Toxic solid, organic, n.o.s. (4-Amino-N,N-dimethylaniline)

15. REGULATORY INFORMATION

SARA 302 Components

The following components are subject to reporting levels established by SARA Title III, Section 302:

Component	CAS-No.	Revision Date
4-Amino-N,N-dimethylaniline	99-98-9	1993-04-24

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard

Massachusetts Right To Know Components

Component	CAS-No.	Revision Date
4-Amino-N,N-dimethylaniline	99-98-9	1993-04-24

Pennsylvania Right To Know Components

Component	CAS-No.	Revision Date
4-Amino-N,N-dimethylaniline	99-98-9	1993-04-24

New Jersey Right To Know Components

Component	CAS-No.	Revision Date
4-Amino-N,N-dimethylaniline	99-98-9	1993-04-24

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox. Acute toxicity

H300 Fatal if swallowed.

H300 + H310 Fatal if swallowed or in contact with skin

H310 Fatal in contact with skin.

H331 Toxic if inhaled.

HMIS Rating

Health hazard: 3

Chronic Health Hazard:

Flammability: 0

Physical Hazard 0

NFPA Rating

Health hazard: 3

Fire Hazard: 2

Reactivity Hazard: 0
