1. PRODUCT AND COMPANY IDENTIFICATION

Product name : N,N-Dimethyl-p-phenylenediamine
Product Number : 07750
Brand : Fluka
Supplier : Sigma-Aldrich
            3050 Spruce Street
            SAINT LOUIS MO  63103
            USA
Telephone : +1 800-325-5832
Fax : +1 800-325-5052
Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555
Preparation Information : Sigma-Aldrich Corporation
                          Product Safety - Americas Region
                          1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Toxic by inhalation., Highly toxic by ingestion, Toxic by skin absorption

GHS Classification
Acute toxicity, Oral (Category 2)
Acute toxicity, Inhalation (Category 3)
Acute toxicity, Dermal (Category 3)

GHS Label elements, including precautionary statements

Pictogram

Signal word Danger

Hazard statement(s)
H300 Fatal if swallowed.
H311 + H331 Toxic in contact with skin or if inhaled

Precautionary statement(s)
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash hands thoroughly after handling.
P280 Wear protective gloves/ protective clothing.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P311 Call a POISON CENTER or doctor/ physician.

HMIS Classification
Health hazard: 3
Flammability: 0
Physical hazard: 0

NFPA Rating
Health hazard: 3
Fire: 2
Reactivity Hazard: 0
**Health hazard:** 3  
**Fire:** 2  
**Reactivity Hazard:** 0

### Potential Health Effects

- **Inhalation**
  Toxic if inhaled. May cause respiratory tract irritation.

- **Skin**
  Toxic if absorbed through skin. May cause skin irritation.

- **Eyes**
  May cause eye irritation.

- **Ingestion**
  May be fatal if swallowed.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

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

#### Formula
- \( C_8H_{12}N_2 \)

#### Molecular Weight
- 136.19 g/mol

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
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<tr>
<td>4-Amino-N,N-dimethylaniline</td>
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<tr>
<td>CAS-No.</td>
<td>99-98-9</td>
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<tr>
<td>EC-No.</td>
<td>202-807-5</td>
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<tr>
<td>Index-No.</td>
<td>612-031-00-2</td>
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</tbody>
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### 4. 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.

### 5. FIREFIGHTING MEASURES

#### Conditions of flammability
Not flammable or combustible.

#### Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### Special protective equipment for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

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

### 6. ACCIDENTAL RELEASE MEASURES

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

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

7. HANDLING AND STORAGE

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.

Conditions for safe storage
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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

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).

Hand 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.

Immersion protection
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: > 480 min
Material tested: Dermatril® (Aldrich Z677272, Size M)

Splash protection
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: > 30 min
Material tested: Dermatril® (Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 873000, 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 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.

Eye 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 and 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.

Hygiene measures
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.
9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**
- **Form**: solid
- **Colour**: no data available

**Safety data**
- **pH**: no data available
- **Melting point/freezing point**: Melting point/range: 34 - 36 °C (93 - 97 °F)
  
- **Boiling point**: 262 °C (504 °F)
- **Flash point**: 91 °C (196 °F) - closed cup
- **Ignition temperature**: no data available
- **Autoignition temperature**: no data available
- **Lower explosion limit**: no data available
- **Upper explosion limit**: no data available
- **Vapour pressure**: no data available
- **Density**: no data available
- **Water solubility**: no data available
- **Partition coefficient: n-octanol/water**: no data available
- **Relative vapour density**: no data available
- **Odour**: no data available
- **Odour Threshold**: no data available
- **Evaporation rate**: no data available

10. STABILITY AND REACTIVITY

**Chemical stability**
Stable under recommended storage conditions.

**Possibility of hazardous reactions**
no data available

**Conditions to avoid**
no data available

**Materials to avoid**
Acid chlorides, Acid anhydrides

**Hazardous decomposition products**
Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx)
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

**Oral LD50**
LD50 Oral - mouse - 30 mg/kg

**Inhalation LC50**
Dermal LD50
LD50 Dermal - guinea pig - 0.5 mg/kg

Other information on acute toxicity
LD50 Intraperitoneal - rabbit - 100 mg/kg
LD50 Intraperitoneal - rat - 21 mg/kg
LD50 Intraperitoneal - mouse - 25 mg/kg
LD50 Intraperitoneal - guinea pig - 45 mg/kg

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitization
Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

Germ cell mutagenicity
Genotoxicity in vitro - rat - Liver
 Unscheduled DNA synthesis
Genotoxicity in vitro - Hamster - Lungs
 Cytogenetic analysis
Genotoxicity in vitro - 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

Teratogenicity
no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)
no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
no data available

Aspiration hazard
no data available

Potential health effects
Inhalation Toxic if inhaled. May cause respiratory tract irritation.
Ingestion  May be fatal if swallowed.
Skin  Toxic if absorbed through skin. May cause skin irritation.
Eyes  May cause eye irritation.

Signs and Symptoms of Exposure
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.

Synergistic effects
no data available

Additional Information
RTECS: ST0874000

12. ECOLOGICAL INFORMATION
  Toxicity
  no data available
  Persistence and degradability
  no data available
  Bioaccumulative potential
  no data available
  Mobility in soil
  PBT and vPvB assessment
  no data available
  Other adverse effects
  no data available

13. 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.

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
  OSHA Hazards
  Toxic by inhalation., Highly toxic by ingestion, Toxic by skin absorption
**SARA 302 Components**
The following components are subject to reporting levels established by SARA Title III, Section 302:

<table>
<thead>
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<td>1993-04-24</td>
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**SARA 313 Components**
SARA 313: 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**

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**Pennsylvania Right To Know Components**

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**New Jersey Right To Know Components**

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**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

**Further information**
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