# SAFETY DATA SHEET

Version 4.10
Revision Date 09/29/2017
Print Date 02/10/2018

## 1. PRODUCT AND COMPANY IDENTIFICATION

### 1.1 Product identifiers

Product name : *N*,*N*-Dimethylaniline

Product Number : 515124
Brand : Aldrich
Index-No. : 612-016-00-0

CAS-No. : 121-69-7

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

Identified uses : Laboratory chemicals, Synthesis of substances

### 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
Fax : +1 800-325-5052

### 1.4 Emergency telephone number

Emergency Phone # : +1-703-527-3887 (CHEMTREC)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**
Flammable liquids (Category 4), H227
Acute toxicity, Oral (Category 3), H301
Acute toxicity, Inhalation (Category 3), H331
Acute toxicity, Dermal (Category 3), H311
Carcinogenicity (Category 2), H351
Acute aquatic toxicity (Category 2), H401
Chronic aquatic toxicity (Category 2), H411

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)

| | |
|---|---|
| H227 | Combustible liquid. |
| H301 + H311 + H331 | Toxic if swallowed, in contact with skin or if inhaled. |
| H351 | Suspected of causing cancer. |
| H411 | Toxic to aquatic life with long lasting effects. |

Precautionary statement(s)

| | |
|---|---|
| P201 | Obtain special instructions before use. |
| P202 | Do not handle until all safety precautions have been read and |

understood.

| | |
|---|---|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. No smoking. |
| P261 | Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. |
| 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. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/ protective clothing/ eye protection/ face protection. |
| P301 + P310 + P330 | IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth. |
| P302 + P352 + P312 | IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or doctor/ physician if you feel unwell. |
| P304 + P340 + P311 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor. |
| P308 + P313 | IF exposed or concerned: Get medical advice/ attention. |
| P362 | Take off contaminated clothing and wash before reuse. |
| P370 + P378 | In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. |
| P391 | Collect spillage. |
| P403 + P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P403 + P235 | Store in a well-ventilated place. Keep cool. |
| 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** - none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**3.1 Substances**

| | | |
|---|---|---|
| Formula | : | $C_8H_{11}N$ |
| Molecular weight | : | 121.18 g/mol |
| CAS-No. | : | 121-69-7 |
| EC-No. | : | 204-493-5 |
| Index-No. | : | 612-016-00-0 |

**Hazardous components**

| Component | Classification | Concentration |
|---|---|---|
| **N,N-Dimethylaniline** | | |
| | Flam. Liq. 4; Acute Tox. 3; Carc. 2; Aquatic Acute 2; Aquatic Chronic 2; H227, H301 + H311 + H331, H351, H411 | 90 - 100 % |

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**
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) and/or in section 11

**4.3 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**
No data available

**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.

## 6. ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions, protective equipment and emergency procedures**
Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
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. Discharge into the environment must be avoided.

**6.3 Methods and materials for containment and cleaning up**
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). 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 inhalation of vapour or mist.
Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge.
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. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

**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**

| Component | CAS-No. | Value | Control parameters | Basis |
|---|---|---|---|---|
| N,N-Dimethylaniline | 121-69-7 | TWA | 5.000000 ppm | USA. ACGIH Threshold Limit Values (TLV) |
| | Remarks | Methemoglobinemia<br>Substances for which there is a Biological Exposure Index or Indices (see BEI® section), see BEI® for Methemoglobin Inducers<br>Not classifiable as a human carcinogen<br>Danger of cutaneous absorption | | |
| | | TWA | 5 ppm | USA. ACGIH Threshold Limit Values (TLV) |
| | | Methemoglobinemia<br>Substances for which there is a Biological Exposure Index or Indices (see BEI® section), see BEI® for Methemoglobin Inducers<br>Not classifiable as a human carcinogen<br>Danger of cutaneous absorption | | |
| | | STEL | 10 ppm | USA. ACGIH Threshold Limit Values (TLV) |
| | | Methemoglobinemia<br>Substances for which there is a Biological Exposure Index or Indices (see BEI® section), see BEI® for Methemoglobin Inducers<br>Not classifiable as a human carcinogen<br>Danger of cutaneous absorption | | |
| | | STEL | 10.000000 ppm | USA. ACGIH Threshold Limit Values (TLV) |
| | | Methemoglobinemia<br>Substances for which there is a Biological Exposure Index or Indices (see BEI® section), see BEI® for Methemoglobin Inducers<br>Not classifiable as a human carcinogen<br>Danger of cutaneous absorption | | |
| | | TWA | 5.000000 ppm<br>25.000000 mg/m3 | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| | | Skin designation<br>The value in mg/m3 is approximate. | | |
| | | TWA | 5 ppm<br>25 mg/m3 | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| | | Skin designation<br>The value in mg/m3 is approximate. | | |
| | | TWA | 5 ppm<br>25 mg/m3 | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| | | Skin notation | | |
| | | STEL | 10 ppm<br>50 mg/m3 | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| | | Skin notation | | |
| | | TWA | 5.000000 ppm<br>25.000000 mg/m3 | USA. NIOSH Recommended Exposure Limits |
| | | Also known as Dimethylaniline which is a correct synonym for Xylidine.<br>Potential for dermal absorption | | |
| | | ST | 10.000000 ppm<br>50.000000 mg/m3 | USA. NIOSH Recommended Exposure Limits |
| | | Also known as Dimethylaniline which is a correct synonym for Xylidine.<br>Potential for dermal absorption | | |

| | | | | |
|---|---|---|---|---|
| | | PEL | 5 ppm<br>25 mg/m3 | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
| | | Skin | | |
| | | STEL | 10 ppm<br>50 mg/m3 | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
| | | Skin | | |

**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: butyl-rubber
Minimum layer thickness: 0.3 mm
Break through time: 480 min
Material tested:Butoject® (KCL 897 / Aldrich Z677647, Size M)

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.4 mm
Break through time: 30 min
Material tested:Camatril® (KCL 730 / Aldrich Z677442, 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 respirator with multi-purpose combination (US) or type ABEK (EN 14387) 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. Discharge into the environment must be avoided.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**9.1 Information on basic physical and chemical properties**

| | | |
|---|---|---|
| a) | Appearance | Form: liquid<br>Colour: light yellow |
| b) | Odour | No data available |
| c) | Odour Threshold | No data available |

| | | |
|---|---|---|
| d) | pH | 7.4 at 1.2 g/l at 20 °C (68 °F) |
| e) | Melting point/freezing point | Melting point/range: 1.5 - 2.5 °C (34.7 - 36.5 °F) - lit. |
| f) | Initial boiling point and boiling range | 193 - 194 °C (379 - 381 °F) - lit. |
| g) | Flash point | 75 °C (167 °F) - closed cup |
| h) | Evaporation rate | No data available |
| i) | Flammability (solid, gas) | No data available |
| j) | Upper/lower flammability or explosive limits | Upper explosion limit: 7 %(V)<br>Lower explosion limit: 1 %(V) |
| k) | Vapour pressure | 13 hPa (10 mmHg) at 70 °C (158 °F)<br>1 hPa (1 mmHg) at 30 °C (86 °F) |
| l) | Vapour density | 4.18 - (Air = 1.0) |
| m) | Relative density | 0.956 g/cm3 at 25 °C (77 °F) |
| n) | Water solubility | ca.1 g/l |
| o) | Partition coefficient: n-octanol/water | log Pow: 2.62 |
| p) | Auto-ignition temperature | No data available |
| q) | Decomposition temperature | No data available |
| r) | Viscosity | No data available |
| s) | Explosive properties | No data available |
| t) | Oxidizing properties | No data available |

**9.2 Other safety information**

| | |
|---|---|
| Surface tension | 3.83 mN/m at 2.5 °C (36.5 °F) |
| Relative vapour density | 4.18 - (Air = 1.0) |

## 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**
Heat, flames and sparks.

**10.5 Incompatible materials**
Strong oxidizing agents, Strong acids, Acid chlorides, Acid anhydrides, Chloroformates, Halogens

**10.6 Hazardous decomposition products**
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx)
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 - Rat - 951 mg/kg
Remarks: Behavioral:Somnolence (general depressed activity). Behavioral:Tremor. Cyanosis

Inhalation: No data available

LD50 Dermal - Rabbit - 1,692 mg/kg

No data available

**Skin corrosion/irritation**
Skin - Rabbit
Result: Mild skin irritation - 24 h

**Serious eye damage/eye irritation**
Eyes - Rabbit
Result: Mild eye irritation - 24 h
(OECD Test Guideline 405)

**Respiratory or skin sensitisation**
No data available

**Germ cell mutagenicity**
Hamster
Lungs
Micronucleus test

Hamster
ovary
Sister chromatid exchange

Rat
DNA damage

**Carcinogenicity**

Carcinogenicity - Rat - Oral
Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Endocrine:Tumors.

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

Limited evidence of carcinogenicity in animal studies

| | |
|---|---|
| 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. |
| 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: BX4725000

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., Damage to the eyes., Blood disorders

Stomach - Irregularities - Based on Human Evidence
Stomach - Irregularities - Based on Human Evidence

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

| | |
|---|---|
| Toxicity to fish | LC50 - Pimephales promelas (fathead minnow) - 65.6 mg/l - 96.0 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Daphnia magna (Water flea) - 5 mg/l - 48 h |

### 12.2 Persistence and degradability

| | |
|---|---|
| Biodegradability | Biotic/Aerobic - Exposure time 28 d<br>Result: 75 % - Readily biodegradable. |
| Ratio BOD/ThBOD | < 20 % |

### 12.3 Bioaccumulative potential

| | |
|---|---|
| Bioaccumulation | Oryzias latipes<br><br>Bioconcentration factor (BCF): 13.6 |

### 12.4 Mobility in soil
No data available

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

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Product**
This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**
Dispose of as unused product.

## 14. TRANSPORT INFORMATION

**DOT (US)**
UN number: 2253 Class: 6.1 Packing group: II
Proper shipping name: N,N-Dimethylaniline
Reportable Quantity (RQ): 100 lbs
Poison Inhalation Hazard: No

**IMDG**
UN number: 2253 Class: 6.1 Packing group: II EMS-No: F-A, S-A
Proper shipping name: N,N-DIMETHYLANILINE
Marine pollutant:yes

**IATA**

UN number: 2253 Class: 6.1 Packing group: II
Proper shipping name: N,N-Dimethylaniline

## 15. REGULATORY INFORMATION

### SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### SARA 313 Components
The following components are subject to reporting levels established by SARA Title III, Section 313:

| | CAS-No. | Revision Date |
|---|---|---|
| N,N-Dimethylaniline | 121-69-7 | 2007-07-01 |

### Massachusetts Right To Know Components

| | CAS-No. | Revision Date |
|---|---|---|
| N,N-Dimethylaniline | 121-69-7 | 2007-07-01 |

### Pennsylvania Right To Know Components

| | CAS-No. | Revision Date |
|---|---|---|
| N,N-Dimethylaniline | 121-69-7 | 2007-07-01 |

### New Jersey Right To Know Components

| | CAS-No. | Revision Date |
|---|---|---|
| N,N-Dimethylaniline | 121-69-7 | 2007-07-01 |

### 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 |
| Aquatic Acute | Acute aquatic toxicity |
| Aquatic Chronic | Chronic aquatic toxicity |
| Carc. | Carcinogenicity |
| Flam. Liq. | Flammable liquids |
| H227 | Combustible liquid. |
| H301 | Toxic if swallowed. |
| H301 + H311 + H331 | Toxic if swallowed, in contact with skin or if inhaled. |
| H311 | Toxic in contact with skin. |

### HMIS Rating

| | |
|---|---|
| Health hazard: | 2 |
| Chronic Health Hazard: | * |
| Flammability: | 2 |
| Physical Hazard | 0 |

### NFPA Rating

| | |
|---|---|
| Health hazard: | 2 |
| Fire Hazard: | 2 |
| Reactivity Hazard: | 0 |

### Further information
Copyright 2016 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

**Preparation Information**
Sigma-Aldrich Corporation
Product Safety – Americas Region
1-800-521-8956

Version: 4.10 Revision Date: 09/29/2017 Print Date: 02/10/2018