

## Chemical Safety Data Sheet MSDS / SDS

**2,4-Dimethyl aniline**

Revision Date:2025-05-17 Revision Number:1

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

Product name : 2,4-Dimethyl aniline  
CBnumber : CB7278882  
CAS : 95-68-1  
EINECS Number : 202-440-0  
Synonyms : 2,4-dimethylaniline,2,4-xyldine

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

**Company Identification**

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 010-86108875

**SECTION 2: Hazards identification****GHS Label elements, including precautionary statements**

Symbol(GHS)



Signal word

Danger

**Precautionary statements**

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.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P264 Wash hands thoroughly after handling.  
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.

P307+P311 IF exposed: call a POISON CENTER or doctor/physician.

P370+P378 In case of fire: Use ... for extinction.

P391 Collect spillage. Hazardous to the aquatic environment

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.....

#### **Hazard statements**

H227 Combustible liquid

H301 Toxic if swallowed

H311 Toxic in contact with skin

H319 Causes serious eye irritation

H331 Toxic if inhaled

H341 Suspected of causing genetic defects

H351 Suspected of causing cancer

H370 Causes damage to organs

H372 Causes damage to organs through prolonged or repeated exposure

H373 May cause damage to organs through prolonged or repeated exposure

H411 Toxic to aquatic life with long lasting effects

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## SECTION 3: Composition/information on ingredients

### **Substance**

|              |                                    |
|--------------|------------------------------------|
| Product name | : 2,4-Dimethyl aniline             |
| Synonyms     | : 2,4-dimethylaniline,2,4-xylidine |
| CAS          | : 95-68-1                          |
| EC number    | : 202-440-0                        |
| MF           | : C8H11N                           |
| MW           | : 121.18                           |

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## SECTION 4: First aid measures

### **Description of first aid measures**

#### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### **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.

### 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

### Indication of any immediate medical attention and special treatment needed

No data available

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## SECTION 5: Firefighting measures

### Extinguishing media

#### Suitable extinguishing media

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

### Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NO<sub>x</sub>)

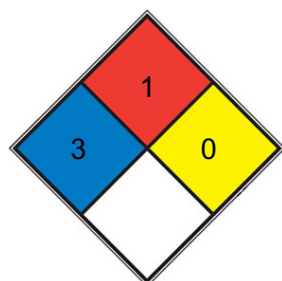
### Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### Further information

No data available

### NFPA 704



**HEALTH 3** Short exposure could cause serious temporary or moderate residual injury (e.g. [liquid hydrogen](#), [sulfuric acid](#), [calcium hypochlorite](#), hexafluorosilicic acid)

**FIRE 1** Materials that require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur. Includes some finely divided suspended solids that do not require heating before ignition can occur. Flash point at or above 93.3 °C (200 °F). (e.g. [mineral oil](#), ammonia)

**REACT 0** Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, [N<sub>2</sub>](#))

☐ SPEC.

☐ HAZ.

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## SECTION 6: Accidental release measures

## **Personal precautions, protective equipment and emergency procedures**

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

For personal protection see section 8.

## **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.

## **Methods and materials for containment and cleaning up**

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

## **Reference to other sections**

For disposal see section 13.

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# SECTION 7: Handling and storage

## **Precautions for safe handling**

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. For precautions see section 2.2.

## **Conditions for safe storage, including any incompatibilities**

Store in cool place. 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.

## **Specific end use(s)**

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

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# SECTION 8: Exposure controls/personal protection

## **control parameter**

### **Hazard composition and occupational exposure limits**

Does not contain substances with occupational exposure limits.

## **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.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

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: 0,2 mm Break through time: 30 min

Material tested: Dermatrill? P (KCL 743 / Aldrich Z677388, 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.

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

|  |   |
|--|---|
| Appearance                                   | colourless clear, liquid                                      |
| Odour  | No data available   |
| Odour Threshold                              | No data available   |
| pH   | 7 (22g/l, H <sub>2</sub> O, 20°C)                             |
| Melting point/freezing point                 | Melting point/range: -14,3 °C - lit.                          |
| Initial boiling point and boiling range      | 218 °C - lit.   |
| Flash point                                  | 98 °C - closed cup  |
| Evaporation rate                             | No data available   |
| Flammability (solid, gas)                    | No data available   |
| Upper/lower flammability or explosive limits | Upper explosion limit: 7 %(V) Lower explosion limit: 1,1 %(V) |
| Vapour pressure                              | 0,51 hPa at 38 °C 0,21 hPa at 25 °C                           |
| Vapour density                               | 4,18 - (Air = 1.0)  |
| Relative density                             | 0,98 g/cm <sup>3</sup> at 25 °C                               |
| Water solubility                             | 5g/l  |
| Partition coefficient: n-octanol/water       | log Pow: 1,68   |
| Autoignition temperature                     | No data available   |

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|                           |                   |
|---------------------------|-------------------|
| Decomposition temperature | No data available |
| Viscosity                 | No data available |
| Explosive properties      | No data available |
| Oxidizing properties      | No data available |

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### Other safety information

Relative vapour density

4,18 - (Air = 1.0)

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## SECTION 10: Stability and reactivity

### Reactivity

No data available

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

No data available

### Conditions to avoid

No data available

### Incompatible materials

acids, Acid chlorides, Acid anhydrides, Oxidizing agents, Chloroformates, Halogens

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO<sub>x</sub>)

Other decomposition products - No data available In the event of fire: see section 5

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## SECTION 11: Toxicological information

### Information on toxicological effects

#### Acute toxicity

LD50 Oral - Mouse - 250 mg/kg

#### Skin corrosion/irritation

No data available

#### Serious eye damage/eye irritation

No data available

#### Respiratory or skin sensitisation

No data available

#### Germ cell mutagenicity

Rat  
Liver  
Unscheduled DNA synthesis  
Mouse  
DNA inhibition  
Mouse  
DNA damage

#### **Carcinogenicity**

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

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (2,4-Xylidine)

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.

#### **Reproductive toxicity**

No data available

#### **Specific target organ toxicity - single exposure**

No data available

#### **Specific target organ toxicity - repeated exposure**

May cause damage to organs through prolonged or repeated exposure.

#### **Aspiration hazard**

No data available

#### **Additional Information**

RTECS: ZE8925000

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., Nausea, Dizziness, Headache, Blood disorders

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## SECTION 12: Ecological information

### **Toxicity**

#### **Toxicity to fish**

LC0 - Leuciscus idus melanotus - 98 mg/l - 48 h

LC50 - Leuciscus idus melanotus - 196 mg/l - 48 h

#### **Toxicity to daphnia and other aquatic invertebrates**

EC50 - Daphnia magna (Water flea) - 9,9 mg/l - 48 h

#### **Persistence and degradability**

Biodegradability aerobic Theoretical oxygen demand - Exposure time 14 d Result: 0 - 29 % - Not readily biodegradable.

#### **Bioaccumulative potential**

No data available

#### **Mobility in soil**

No data available

#### **Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

#### **Other adverse effects**

Toxic to aquatic life with long lasting effects.

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## **SECTION 13: Disposal considerations**

#### **Waste treatment methods**

#### **Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

#### **Contaminated packaging**

Dispose of as unused product.

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## **SECTION 14: Transport information**

#### **UN number**

ADR/RID: 1711 IMDG: 1711

#### **UN proper shipping name**

ADR/RID: XYLIDINES, LIQUID IMDG: XYLIDINES, LIQUID IATA: Xylidines, liquid

#### **Transport hazard class(es)**

ADR/RID: 6.1 IMDG: 6.1 IATA: 6.1

#### **Packaging group**

ADR/RID: II IMDG: II IATA: II

#### **Environmental hazards**

ADR/RID: yes IMDG Marine pollutant: yes IATA: no

#### **Special precautions for user**

No data available

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## **SECTION 15: Regulatory information**

#### **Safety, health and environmental regulations/legislation specific for the substance or mixture**

##### **Regulations on the Safety Management of Hazardous Chemicals**

China Catalog of Hazardous chemicals 2015: Listed. website: <https://www.mem.gov.cn/>

##### **Measures for Environmental Management of New Chemical Substances**

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC):Listed. website: <https://www.mee.gov.cn/>

EC Inventory:Listed.

European Inventory of Existing Commercial Chemical Substances (EINECS):Listed. website: <https://echa.europa.eu/>

Korea Existing Chemicals List (KECL):Listed. website: <http://ncis.nier.go.kr>

New Zealand Inventory of Chemicals (NZIoC):Listed. website: <https://www.epa.govt.nz/>

Philippines Inventory of Chemicals and Chemical Substances (PICCS):Listed. website: <https://emb.gov.ph/>

United States Toxic Substances Control Act (TSCA) Inventory:Listed. website: <https://www.epa.gov/>

Vietnam National Chemical Inventory:Listed. website: <https://chemicaldata.gov.vn/>

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## SECTION 16: Other information

### Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS: Chemical Abstracts Service

EC50: Effective Concentration 50%

IATA: International Air Transportation Association

IMDG: International Maritime Dangerous Goods

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

STEL: Short term exposure limit

TWA: Time Weighted Average

### References

【1】 CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

【2】 ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

【3】 ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

【4】 eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:  
[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

【5】 ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

【6】 Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

【7】 HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

【8】 IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

【9】 IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

【10】 Sigma-Aldrich, website: <https://www.sigmaaldrich.com/>

### Other Information

Depending on the degree of exposure, periodic medical examination is suggested. Specific treatment is necessary in case of poisoning with this substance; the appropriate means with instructions must be available. TLV only established for mixed isomers, see ICSC 0600. See ICSCs 0451, 0600, 1519, 1686 and 1687.

#### Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the

appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.