SAFETY DATA SHEET

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

1.1 Product identifiers

Product name: N-Methylaniline
Product Number: M29304
Brand: Aldrich
Index-No.: 612-015-00-5
CAS-No.: 100-61-8

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 Inc.
3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES
Telephone: +1 314 771-5765
Fax: +1 800 325-5052

1.4 Emergency telephone

Emergency Phone #: 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 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
Eye irritation (Category 2A), H319
Specific target organ toxicity - repeated exposure, Oral (Category 2), Liver, spleen, Bone marrow, H373
Short-term (acute) aquatic hazard (Category 1), H400
Long-term (chronic) aquatic hazard (Category 1), H410

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

2.2 GHS Label elements, including precautionary statements

Aldrich - M29304
2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

SECTION 3: Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Synonyms</th>
<th>Monomethylaniline</th>
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<tbody>
<tr>
<td>Formula</td>
<td>C₇H₉N</td>
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<tr>
<td>Molecular weight</td>
<td>107.15 g/mol</td>
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<tr>
<td>CAS-No.</td>
<td>100-61-8</td>
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<tr>
<td>EC-No.</td>
<td>202-870-9</td>
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</table>
SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice
First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled
After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician immediately.

In case of eye contact
After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed
If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

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

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Carbon dioxide (CO2) Foam Dry powder
Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture
Carbon oxides
Nitrogen oxides (NOx)
Combustible.
Vapors are heavier than air and may spread along floors.
Forms explosive mixtures with air on intense heating.
Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information
Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

6.2 Environmental precautions
Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Advice on safe handling
Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion
Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
For precautions see section 2.2.
7.2 Conditions for safe storage, including any incompatibilities

Storage conditions
Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Storage class
Storage class (TRGS 510): 6.1C: Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

<table>
<thead>
<tr>
<th>Ingredients with workplace control parameters</th>
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<tbody>
<tr>
<td>Component</td>
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<tr>
<td>N-Methylaniline</td>
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8.2 Exposure controls

Appropriate engineering controls
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Personal protective equipment

Eye/face protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection
This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please
contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact
Material: butyl-rubber
Minimum layer thickness: 0.7 mm
Break through time: 480 min
Material tested: Butoject® (KCL 898)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact
Material: Latex gloves
Minimum layer thickness: 0.6 mm
Break through time: 30 min
Material tested: Lapren® (KCL 706 / Aldrich Z677558, Size M)

**Body Protection**
protective clothing

**Respiratory protection**
required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

**Control of environmental exposure**
Do not let product enter drains.

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**SECTION 9: Physical and chemical properties**

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

| a) Appearance | Form: clear, liquid  
|               | Color: light yellow  
| b) Odor       | No data available  
| c) Odor Threshold | No data available  
| d) pH         | 7.6 at 1 g/l  
| e) Melting point/freezing point | Melting point/range: -57 °C (-71 °F) - lit.  
| f) Initial boiling point and boiling range | 196 °C 385 °F - lit.  
| g) Flash point | 85 °C (185 °F) - closed cup  
| h) Evaporation rate | No data available  
| i) Flammability (solid, gas) | No data available  
| j) Upper/lower flammability or explosive limits | No data available  

Aldrich - M29304
k) Vapor pressure No data available  
l) Vapor density No data available  
m) Density 0.989 g/cm³ at 25 °C (77 °F) - lit.  
   Relative density No data available  
n) Water solubility ca.30 g/l  
o) Partition coefficient: n-octanol/water No data available  
p) Autoignition temperature No data available  
q) Decomposition temperature No data available  
r) Viscosity No data available  
s) Explosive properties No data available  
t) Oxidizing properties none  

9.2 Other safety information  
No data available  

SECTION 10: Stability and reactivity  

10.1 Reactivity  
Forms explosive mixtures with air on intense heating.  
A range from approx. 15 Kelvin below the flash point is to be rated as critical.  

10.2 Chemical stability  
The product is chemically stable under standard ambient conditions (room temperature).  

10.3 Possibility of hazardous reactions  
Violent reactions possible with:  
Oxidizing agents  
Strong acids  
Acid chlorides  
Acid anhydrides  

10.4 Conditions to avoid  
Strong heating.  

10.5 Incompatible materials  
various plastics, Copper, copper compounds  

10.6 Hazardous decomposition products  
In the event of fire: see section 5
SECTION 11: Toxicological information

11.1 Information on toxicological effects

**Acute toxicity**
Acute toxicity estimate Oral - 100.1 mg/kg
(Expert judgment)
Acute toxicity estimate Oral - Expert judgment - 100.1 mg/kg
Symptoms: Nausea, Vomiting
Oral: Rapid absorption.
Acute toxicity estimate Inhalation - Expert judgment - 4 h - 3.1 mg/l - vapor

Acute toxicity estimate Dermal - Expert judgment - 300.1 mg/kg

**Skin corrosion/irritation**
Skin - Rabbit
Result: No skin irritation - 4 h
Remarks: (External MSDS)

**Serious eye damage/eye irritation**
Eyes - Chicken eye
Result: Causes serious eye irritation. - 10 s
(OECD Test Guideline 438)

**Respiratory or skin sensitization**
Local lymph node assay (LLNA) - Mouse
Result: negative
(OECD Test Guideline 429)

**Germ cell mutagenicity**
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Result: negative
Remarks: (ECHA)
Test Type: Mutagenicity (mammal cell test): chromosome aberration.
Test system: Chinese hamster lung cells
Metabolic activation: with and without metabolic activation
Result: positive
Remarks: (ECHA)

Test Type: Micronucleus test
Species: Mouse
Cell type: Red blood cells (erythrocytes)
Application Route: Oral
Method: OECD Test Guideline 475
Result: positive

**Carcinogenicity**
IARC: No ingredient 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 ingredient 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 on OSHA’s list of regulated carcinogens.
Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
Oral - May cause damage to organs through prolonged or repeated exposure.
- Liver, spleen, Bone marrow
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Aspiration hazard
No data available

11.2 Additional Information
RTECS: BY4550000
Cough, Shortness of breath, Headache, Nausea, Vomiting, 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.
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Systemic effects:
After absorption:
- confusion
- Dizziness
- somnolence
- Methaemoglobinemia
- Coma

Absorption can result in damage to:
- Liver
- Kidney
- Central nervous system

Effect potentiated by: ethanol

Danger of cumulative effects.

The following applies to aromatic amines in general: systemic effect: methaemoglobinemia with headache, cardiac dysrhythmia, drop in blood pressure, dyspnoea, and spasms, principal symptom: cyanosis (blue discolouration of the blood).

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to daphnia and other aquatic LC50 - Daphnia magna (Water flea) - 0.15 mg/l - 48 h
Remarks: (ECOTOX Database)
invertebrates
Toxicity to bacteria
EC50 - activated sludge - 1.5 mg/l - 30 min
(ISO 8192)

12.2 Persistence and degradability
Biodegradability
aerobic - Exposure time 28 d
Result: 92 % - Inherently biodegradable.
Remarks: (ECHA)

12.3 Bioaccumulative potential
Bioaccumulation
Cyprinodontidae - 48 h
- 250 µg/l(N-Methylaniline)

Bioconcentration factor (BCF): 2.6

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 Endocrine disrupting properties
No data available

12.7 Other adverse effects
No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product
Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14: Transport information

**DOT (US)**
UN number: 2294  Class: 6.1  Packing group: III
Proper shipping name: N-Methylaniline
Reportable Quantity (RQ):
Poison Inhalation Hazard: No

**IMDG**
UN number: 2294  Class: 6.1  Packing group: III  EMS-No: F-A, S-A
Proper shipping name: N-METHYLANILINE
Marine pollutant : yes
Marine pollutant : yes

**IATA**
UN number: 2294  Class: 6.1  Packing group: III
Proper shipping name: N-Methylaniline

SECTION 15: Regulatory information

SARA 302 Components
This material does not contain any components with a section 302 EHS TPQ.

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
Fire Hazard, Acute Health Hazard

Massachusetts Right To Know Components

<table>
<thead>
<tr>
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<th>CAS-No.</th>
<th>Revision Date</th>
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<tbody>
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<td>N-Methylaniline</td>
<td>100-61-8</td>
<td>2007-03-01</td>
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Pennsylvania Right To Know Components

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<tbody>
<tr>
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<td>100-61-8</td>
<td>2007-03-01</td>
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</tbody>
</table>

SECTION 16: Other information

Further information
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.

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Version: 6.5 Revision Date: 01/24/2023 Print Date: 08/12/2023