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

1.1 Product identifiers
- Product name: Methylamine
- Product Number: 295531
- Brand: Aldrich
- Index-No.: 612-001-00-9
- REACH No.: 01-2119475496-25-XXXX
- CAS-No.: 74-89-5

1.2 Relevant identified uses of the substance or mixture and uses advised against
- Identified uses: Laboratory chemicals, Manufacture 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
- Classification according to Regulation (EC) No 1272/2008
  - Flammable gases (Category 1A), H220
  - Gases under pressure (Compressed gas), H280
  - Acute toxicity, Inhalation (Category 3), H331
  - Skin irritation (Category 2), H315
  - Serious eye damage (Category 1), H318
  - Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

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

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal Word | Danger
---|---

Hazard statement(s)
- H220 | Extremely flammable gas.
- H280 | Contains gas under pressure; may explode if heated.
- H315 | Causes skin irritation.
- H318 | Causes serious eye damage.
- H331 | Toxic if inhaled.
- H335 | May cause respiratory irritation.

Precautionary statement(s)
- P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P280 | Wear protective gloves/ eye protection/ face protection.
- P304 + P340 + P311 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor.
- P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P403 + P233 | Store in a well-ventilated place. Keep container tightly closed.
- P410 + P403 | Protect from sunlight. Store in a well-ventilated place.

Supplemental Hazard Statements: none

Reduced Labeling (<= 125 ml)

Pictogram

Signal Word | Danger
---|---

Hazard statement(s)
- H220 | Extremely flammable gas.
- H318 | Causes serious eye damage.
- H331 | Toxic if inhaled.

Precautionary statement(s)
- P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P304 + P340 + P311 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor.
- P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P403 + P233 | Store in a well-ventilated place. Keep container tightly closed.

Supplemental Hazard Statements: none
2.3 Other hazards
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. Contact with liquid or refrigerated gas can cause cold burns and frostbite. Lachrymator.

SECTION 3: Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Synonyms</th>
<th>Monomethylamine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula</td>
<td>CH₅N</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>31,06 g/mol</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>74-89-5</td>
</tr>
<tr>
<td>EC-No.</td>
<td>200-820-0</td>
</tr>
<tr>
<td>Index-No.</td>
<td>612-001-00-9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aminomethane</td>
<td>Flam. Gas 1A; Press. Gas Compr. Gas; Acute Tox. 3; Skin Irrit. 2; Eye Dam. 1; STOT SE 3; H220, H280, H331, H315, H318, H335 Concentration limits: &gt;= 5 %: Skin Irrit. 2, H315; &gt;= 5 %: Eye Dam. 1, H318; 0,5 - &lt; 5 %: Eye Irrit. 2, H319; &gt;= 5 %: STOT SE 3, H335; &gt;= 5 %: STOT SE 3, H335</td>
<td>&lt;= 100 %</td>
</tr>
</tbody>
</table>

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

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.

In case of eye contact
After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.
**If swallowed**
After swallowing: immediately make victim drink water (two glasses at most). 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

---

**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

**Suitable extinguishing media**
Water Foam Carbon dioxide (CO2) 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.
Pay attention to flashback.
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 gas. Avoid substance contact. Ensure adequate ventilation. 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). Stop flow of gas, move leaking cylinder to open air if without risk.

**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.

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 locked up or in an area accessible only to qualified or authorized persons. Keep away from combustible materials and sources of ignition.

Storage class
Storage class (TRGS 510): 2A: Gases

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

Ingredients with workplace control parameters

8.2 Exposure controls

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). Tightly fitting safety goggles

Body Protection
Flame retardant antistatic protective clothing.

Respiratory protection
required when vapours/mists 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.

Recommended Filter type: Filter type ABEK

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure
Do not let product enter drains.
SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Physical state  
Compressed gas

b) Color  
Colorless

c) Odor  
No data available

d) Melting point/freezing point  
Melting point/range: -93 °C - lit.

e) Initial boiling point and boiling range  
-6,3 °C - lit.

f) Flammability (solid, gas)  
No data available

g) Upper/lower flammability or explosive limits  
Upper explosion limit: 20,8 % (V)  
Lower explosion limit: 4,9 % (V)

h) Flash point  
No data available

i) Autoignition temperature  
No data available

j) Decomposition temperature  
No data available

k) pH  
14 at 100 g/l at 20 °C

l) Viscosity  
Viscosity, kinematic: No data available  
Viscosity, dynamic: No data available

m) Water solubility  
No data available

n) Partition coefficient: n-octanol/water  
No data available

o) Vapor pressure  
No data available

p) Density  
0,7 g/cm3 at 20 °C - lit.  
Relative density  
No data available

q) Relative vapor density  
No data available

r) Particle characteristics  
No data available

s) Explosive properties  
No data available

t) Oxidizing properties  
No data available

9.2 Other safety information  
No data available

SECTION 10: Stability and reactivity

10.1 Reactivity  
No data available
10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
no information available

10.5 Incompatible materials
No data available

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
Oral: No data available
Acute toxicity estimate Inhalation - 4 h - 701 ppm - gas(Expert judgment)

Acute toxicity estimate Inhalation - Expert judgment - 4 h - 701 ppm - gas

Dermal: No data available

Skin corrosion/irritation
Causes skin irritation. Classified according to Regulation (EU) 2012/2008, Annex VI (Table 3.1/3.2)

Serious eye damage/eye irritation
Risk of corneal clouding.

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Test Type: Micronucleus test
Species: Mouse
Cell type: Bone marrow
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative

Carcinogenicity
No data available
Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation. - Respiratory system
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Corrosive to the respiratory tract.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

11.2 Additional Information

Endocrine disrupting properties

Product:
Assessment  The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

RTECS: PF6300000
May cause irritation to eyes and respiratory passages to workers briefly exposed to high concentrations, Conjunctivitis., sore throat
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity
No data available

Toxicity to daphnia and other aquatic invertebrates
static test EC50 - Daphnia magna (Water flea) - 163 mg/l - 48 h (DIN 38412)

Toxicity to algae
static test ErC50 - Desmodesmus subspicatus (green algae) - > 700 mg/l - 72 h (OECD Test Guideline 201)

Toxicity to bacteria
EC50 - Photobacterium phosphoreum - 34,8 mg/l - 30 min
Remarks: (IUCLID)

12.2 Persistence and degradability
Biodegradability  aerobic - Exposure time 14 d
Result: 84 % - Readily biodegradable. (OECD Test Guideline 301C)

Theoretical oxygen demand  507 mg/g
Remarks: (Lit.)

12.3 Bioaccumulative potential
No data available

Aldrich- 295531

The life science business of Merck operates as MilliporeSigma in the US and Canada
12.4 **Mobility in soil**  
No data available

12.5 **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.

12.6 **Endocrine disrupting properties**  
**Product:**  
**Assessment:** The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 **Other adverse effects**  
**Biological effects:**  
Harmful effect due to pH shift.  
Discharge into the environment must be avoided.

### SECTION 13: Disposal considerations

13.1 **Waste treatment methods**  
**Product**  
Pressurised gas bottle: dispose of only in empty condition! 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

14.1 **UN number**  
**ADR/RID:** 1061  
**IMDG:** 1061  
**IATA:** 1061

14.2 **UN proper shipping name**  
**ADR/RID:** METHYLAMINE, ANHYDROUS (ethanol, methylamine in solution)  
**IMDG:** METHYLAMINE, ANHYDROUS (ethanol, methylamine in solution)  
**IATA:** Methylamine, anhydrous (ethanol, methylamine in solution)  
Passenger Aircraft: Not permitted for transport

14.3 **Transport hazard class(es)**  
**ADR/RID:** 2.1  
**IMDG:** 2.1  
**IATA:** 2.1

14.4 **Packaging group**  
**ADR/RID:** -  
**IMDG:** -  
**IATA:** -

14.5 **Environmental hazards**  
**ADR/RID:** no  
**IMDG Marine pollutant:** no  
**IATA:** no

14.6 **Special precautions for user**  
No data available
SECTION 15: Regulatory information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

National legislation

: ACUTE TOXIC
: FLAMMABLE GASES

Other regulations
Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.
Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

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

H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.

Relevant changes since previous version
2. Hazards identification

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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