1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name: Trimethylamine
Product Number: 243205
Brand: Aldrich
Index-No.: 612-001-00-9
CAS-No.: 75-50-3

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 #: (314) 776-6555

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Flammable gases (Category 1), H220
Gases under pressure (Liquefied gas), H280
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 4), H332
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 GHS Label elements, including precautionary statements

Pictogram

Signal word: Danger

Hazard statement(s)
H220: Extremely flammable gas.
H280: Contains gas under pressure; may explode if heated.
H302 + H332: Harmful if swallowed or if inhaled
H315: Causes skin irritation.
H318: Causes serious eye damage.
H335: May cause respiratory irritation.
Precautionary statement(s)
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.
P280 Wear eye protection/ face protection.
P280 Wear protective gloves.
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 Eliminate all ignition sources if safe to do so.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P410 + P403 Protect from sunlight. Store in a well-ventilated place.
P501 Dispose of contents/ container to an approved waste disposal plant.

2.3Hazards not otherwise classified (HNOC) or not covered by GHS
Lachrymator.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1Substances

<table>
<thead>
<tr>
<th>Formula</th>
<th>C₃H₉N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular weight</td>
<td>59.11 g/mol</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>75-50-3</td>
</tr>
<tr>
<td>EC-No.</td>
<td>200-875-0</td>
</tr>
<tr>
<td>Index-No.</td>
<td>612-001-00-9</td>
</tr>
</tbody>
</table>

Hazardous components

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trimethylamine</td>
<td>Flam. Gas 1; Press. Gas Liquefied gas; Acute Tox. 4; Skin Irrit. 2; Eye Dam. 1; STOT SE 3; H220, H280, H302 + H332, H315, H318, H335</td>
<td>&lt;= 100 %</td>
</tr>
</tbody>
</table>

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

4. FIRST AID MEASURES

4.1Description 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. Consult a physician.
In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

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
Use personal protective equipment. 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.

6.3 Methods and materials for containment and cleaning up
Clean up promptly by sweeping or vacuum.

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.
Use explosion-proof equipment. 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.
Recommended storage temperature 2 - 8 °C
Contents under pressure. Moisture sensitive. Refrigerate before opening.
Storage class (TRGS 510): Gases

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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trimethylamine</td>
<td>75-50-3</td>
<td>TWA</td>
<td>5.000000 ppm</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
</tr>
<tr>
<td>Remarks</td>
<td></td>
<td></td>
<td>Upper Respiratory Tract irritation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>5 ppm</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Upper Respiratory Tract irritation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Eye irritation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skin irritation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEL</td>
<td>15.000000 ppm</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remarks</td>
<td></td>
<td>Upper Respiratory Tract irritation</td>
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<td></td>
<td>Eye irritation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skin irritation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>1.000000 ppm</td>
<td>USA. Workplace Environmental Exposure Levels (WEEL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>10.000000 ppm 24.000000 mg/m3</td>
<td>USA. NIOSH Recommended Exposure Limits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>May be used in an aqueous solution (typically 25%, 30%, or 40% TMA.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST</td>
<td>15.000000 ppm 36.000000 mg/m3</td>
<td>USA. NIOSH Recommended Exposure Limits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>May be used in an aqueous solution (typically 25%, 30%, or 40% TMA.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PEL</td>
<td>5 ppm 12 mg/m3</td>
<td>California permissible exposure limits for chemical contaminants (Title 8, Article 107)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEL</td>
<td>15 ppm 36 mg/m3</td>
<td>California permissible exposure limits for chemical contaminants (Title 8, Article 107)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection
Tightly fitting safety goggles. Faceshield (8-inch minimum). 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.

Splash contact
Material: Fluorinated rubber
Minimum layer thickness: 0.7 mm
Break through time: 120 min  
Material tested: Vitoject® (KCL 890 / Aldrich Z677698, 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, Flame retardant antistatic protective clothing. 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 AXBEK (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.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

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

- **a)** Appearance  
  Form: Liquefied gas  
  Colour: colourless
- **b)** Odour  
  No data available
- **c)** Odour Threshold  
  No data available
- **d)** pH  
  No data available
- **e)** Melting point/freezing point  
  Melting point/range: -117 ºC (-179 ºF) - lit.
- **f)** Initial boiling point and boiling range  
  3 - 4 ºC (37 - 39 ºF) - lit.
- **g)** Flash point  
  -7 ºC (19 ºF) - 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: 11.6 % (V)  
  Lower explosion limit: 2 % (V)
- **k)** Vapour pressure  
  916.74 hPa (687.61 mmHg) at 21 ºC (70 ºF)
- **l)** Vapour density  
  2.04 - (Air = 1.0)
- **m)** Relative density  
  0.63 g/cm3 at 20 ºC (68 ºF)
- **n)** Water solubility  
  No data available
- **o)** Partition coefficient: n-octanol/water  
  No data available
- **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  
Relative vapour density  2.04 - (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, Brass, Magnesium, Zinc, Copper, Mercury/mercury oxides., Tin/tin oxides  
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 - 500 mg/kg  
LC50 Inhalation - Mouse - 19,000 mg/m3  
Dermal: No data available  
No data available  
Skin corrosion/Irritation  
No data available  
Serious eye damage/eye irritation  
No data available  
Respiratory or skin sensitisation  
No data available  
Germ cell mutagenicity  
No data available  
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.  
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.  
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.

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

Reproductive toxicity - Mouse - Intraperitoneal
Effects on Fertility: Litter size (e.g.; # fetuses per litter; measured before birth). Effects on Newborn: Physical.

No data available

Developmental Toxicity - Mouse - Intraperitoneal
Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Specific target organ toxicity - single exposure
May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information
RTECS: PA0350000
Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea

12. ECOLOGICAL INFORMATION

12.1 Toxicity
Toxicity to fish LC50 - Oryzias latipes - 1,000 mg/l - 48 h

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

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
No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. 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: 1083  Class: 2.1
Proper shipping name: Trimethylamine, anhydrous
Reportable Quantity (RQ): 100 lbs

Poison Inhalation Hazard: No

**IMDG**
UN number: 1083  Class: 2.1  EMS-No: F-D, S-U
Proper shipping name: TRIMETHYLAMINE, ANHYDROUS

**IATA**
UN number: 1083  Class: 2.1
Proper shipping name: Trimethylamine, anhydrous
IATA Passenger: Not permitted for transport

### 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**
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.

**Massachusetts Right To Know Components**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trimethylamine</td>
<td>75-50-3</td>
<td>1994-04-01</td>
</tr>
</tbody>
</table>

**Pennsylvania Right To Know Components**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
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<tbody>
<tr>
<td>Trimethylamine</td>
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<td>1994-04-01</td>
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**New Jersey Right To Know Components**

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<th>Revision Date</th>
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</thead>
<tbody>
<tr>
<td>Trimethylamine</td>
<td>75-50-3</td>
<td>1994-04-01</td>
</tr>
</tbody>
</table>

**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
- **Eye Dam.** Serious eye damage
- **Flam. Gas** Flammable gases
- **H220** Extremely flammable gas.
- **H280** Contains gas under pressure; may explode if heated.
- **H302** Harmful if swallowed.
- **H302 + H332** Harmful if swallowed or inhaled
- **H315** Causes skin irritation.
- **H318** Causes serious eye damage.
- **H332** Harmful if inhaled.
- **H335** May cause respiratory irritation.
- **Press. Gas** Gases under pressure

**HMIS Rating**
Health hazard: 2
Chronic Health Hazard:
Flammability: 4
Physical Hazard 3

**NFPA Rating**
Health hazard: 2
Fire Hazard: 4
Reactivity Hazard: 0

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

Version: 4.7 Revision Date: 05/24/2016 Print Date: 08/30/2016