

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 5.1 Revision Date 04.02.2013

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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Triethylamine

Product Number : T0886

Brand : Sigma-Aldrich

Index-No. : 612-004-00-5

REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

CAS-No. : 121-44-8

**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 Chemie BV  
Stationsplein 4  
3331 LL ZWIJNDRECHT  
NETHERLANDS

Telephone : +31 78-620-5411

Fax : +31 78-620-5421

E-mail address : eurtechserv@sial.com

**1.4 Emergency telephone number**

Emergency Phone # : 112

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Flammable liquids (Category 2), H225  
Acute toxicity, Inhalation (Category 4), H332  
Acute toxicity, Dermal (Category 4), H312  
Acute toxicity, Oral (Category 4), H302  
Skin corrosion (Category 1A), H314

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

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

|    |                  |           |
|----|------------------|-----------|
| F  | Highly flammable | R11       |
| C  | Corrosive        | R35       |
| Xn | Harmful          | R20/21/22 |

For the full text of the R-phrases 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)            |                                                                                                                                  |
| H225                           | Highly flammable liquid and vapour.                                                                                              |
| H302                           | Harmful if swallowed.                                                                                                            |
| H312                           | Harmful in contact with skin.                                                                                                    |
| H314                           | Causes severe skin burns and eye damage.                                                                                         |
| H332                           | Harmful if inhaled.                                                                                                              |
| Precautionary statement(s)     |                                                                                                                                  |
| P210                           | Keep away from heat/sparks/open flames/hot surfaces. - No smoking.                                                               |
| P280                           | Wear protective gloves/ protective clothing/ eye protection/ face protection.                                                    |
| P305 + P351 + P338             | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P310                           | Immediately call a POISON CENTER or doctor/ physician.                                                                           |
| Supplemental Hazard Statements | none                                                                                                                             |

### 2.3 Other hazards - none

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

|                  |   |                                  |
|------------------|---|----------------------------------|
| Formula          | : | C <sub>6</sub> H <sub>15</sub> N |
| Molecular Weight | : | 101,19 g/mol                     |
| CAS-No.          | : | 121-44-8                         |
| EC-No.           | : | 204-469-4                        |
| Index-No.        | : | 612-004-00-5                     |

#### Hazardous ingredients according to Regulation (EC) No 1272/2008

| Component            | Classification                                                            | Concentration |
|----------------------|---------------------------------------------------------------------------|---------------|
| <b>Triethylamine</b> |                                                                           |               |
|                      | Flam. Liq. 2; Acute Tox. 4; Skin Corr. 1A; H225, H302 + H312 + H332, H314 | -             |

#### Hazardous ingredients according to Directive 1999/45/EC

| Component            | Classification              | Concentration |
|----------------------|-----------------------------|---------------|
| <b>Triethylamine</b> |                             |               |
|                      | F, C, R11 - R20/21/22 - R35 | -             |

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

## SECTION 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.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. 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

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### **SECTION 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**

Carbon oxides, nitrogen oxides (NOx)

#### **5.3 Advice for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

#### **5.4 Further information**

Use water spray to cool unopened containers.

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### **SECTION 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).

#### **6.4 Reference to other sections**

For disposal see section 13.

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### **SECTION 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**

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.

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

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

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### **SECTION 8: Exposure controls/personal protection**

#### **8.1 Control parameters**

##### **Components with workplace control parameters**

#### **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

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.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,4 mm

Break through time: 480 min

Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

#### Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,2 mm

Break through time: 49 min

Material tested: Dermatril® 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, 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 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

### 9.1 Information on basic physical and chemical properties

- |                                 |                                           |
|---------------------------------|-------------------------------------------|
| a) Appearance                   | Form: liquid, clear<br>Colour: colourless |
| b) Odour                        | amine-like                                |
| c) Odour Threshold              | no data available                         |
| d) pH                           | 12,7 at 100 g/l at 15 °C                  |
| e) Melting point/freezing point | Melting point/range: -115 °C              |
| f) Initial boiling point and    | 88,8 °C                                   |

|    |                                              |                                                                  |
|----|----------------------------------------------|------------------------------------------------------------------|
|    | boiling range                                |                                                                  |
| g) | Flash point                                  | -15 °C - 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: 8 %(V)<br>Lower explosion limit: 1,2 %(V) |
| k) | Vapour pressure                              | 68,99 hPa at 20 °C<br>85,06 hPa at 30 °C                         |
| l) | Vapour density                               | 3,49 - (Air = 1.0)                                               |
| m) | Relative density                             | 0,726 g/mL at 25 °C                                              |
| n) | Water solubility                             | no data available                                                |
| o) | Partition coefficient: n-octanol/water       | log Pow: 1,15                                                    |
| 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         | 20,7 mN/m at 20 °C |
| Relative vapour density | 3,49 - (Air = 1.0) |

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## SECTION 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. Extremes of temperature and direct sunlight.

### 10.5 Incompatible materials

Strong oxidizing agents

### 10.6 Hazardous decomposition products

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

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - rat - 730 mg/kg

LC50 Inhalation - rat - 4 h - 7,1 mg/l

LD50 Dermal - rabbit - 580 mg/kg

**Skin corrosion/irritation**

Skin - rabbit

Result: Extremely corrosive and destructive to tissue.

**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.

**Reproductive toxicity**

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: YE0175000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting

Central nervous system - Irregularities - Based on Human Evidence

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**SECTION 12: Ecological information****12.1 Toxicity**

|                                                     |                                                                    |
|-----------------------------------------------------|--------------------------------------------------------------------|
| Toxicity to fish                                    | LC50 - Pimephales promelas (fathead minnow) - 43,7 mg/l - 96 h     |
|                                                     | LC50 - Oncorhynchus mykiss (rainbow trout) - 126 - 150 mg/l - 60 d |
|                                                     | LOEC - Danio rerio (zebra fish) - 320 mg/l - 7 d                   |
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Daphnia magna (Water flea) - 200 mg/l - 48 h                |
| Toxicity to bacteria                                | LC50 - Bacteria - 95 mg/l - 17 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**

Harmful to aquatic life.

no data available

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**SECTION 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.

**Contaminated packaging**

Dispose of as unused product.

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**SECTION 14: Transport information****14.1 UN number**

ADR/RID: 1296

IMDG: 1296

IATA: 1296

**14.2 UN proper shipping name**

ADR/RID: TRIETHYLAMINE

IMDG: TRIETHYLAMINE

IATA: Triethylamine

**14.3 Transport hazard class(es)**

ADR/RID: 3 (8)

IMDG: 3 (8)

IATA: 3 (8)

**14.4 Packaging group**

ADR/RID: II

IMDG: II

IATA: II

**14.5 Environmental hazards**

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

**14.6 Special precautions for user**

no data available

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**SECTION 15: Regulatory information**

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

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

no data available

**15.2 Chemical Safety Assessment**

For this product a chemical safety assessment was not carried out

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**SECTION 16: Other information****Full text of H-Statements referred to under sections 2 and 3.**

|                    |                                                          |
|--------------------|----------------------------------------------------------|
| Acute Tox.         | Acute toxicity                                           |
| Flam. Liq.         | Flammable liquids                                        |
| H225               | Highly flammable liquid and vapour.                      |
| H302               | Harmful if swallowed.                                    |
| H302 + H312 + H332 | Harmful if swallowed, in contact with skin or if inhaled |
| H312               | Harmful in contact with skin.                            |
| H314               | Causes severe skin burns and eye damage.                 |
| H332               | Harmful if inhaled.                                      |

**Full text of R-phrases referred to under sections 2 and 3**

|           |                                                               |
|-----------|---------------------------------------------------------------|
| C         | Corrosive                                                     |
| F         | Highly flammable                                              |
| R11       | Highly flammable.                                             |
| R20/21/22 | Harmful by inhalation, in contact with skin and if swallowed. |
| R35       | Causes severe burns.                                          |

**Further information**

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