

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 8.4

Revision Date 04.06.2021

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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 : Triethanolamine (Trolamine) EMPROVE®  
EXPERT Ph Eur,NF

Product Number : 1.37148  
Brand : Millipore  
REACH No. : 01-2119486482-31-XXXX  
CAS-No. : 102-71-6

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Pharmaceutical production

### 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Chemie GmbH  
Eschenstrasse 5  
D-82024 TAUFKIRCHEN

Telephone : +49 (0)89 6513-1130  
Fax : +49 (0)89 6513-1161  
E-mail address : technischerservice@merckgroup.com

### 1.4 Emergency telephone

Emergency Phone # : 0800 181 7059 (CHEMTREC Deutschland)  
+49 (0)696 43508409 (CHEMTREC  
weltweit)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

### 2.2 Label elements

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

### 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.



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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Formula	: C <sub>6</sub> H <sub>15</sub> NO <sub>3</sub>
Molecular weight	: 149,19 g/mol
CAS-No.	: 102-71-6
EC-No.	: 203-049-8

No components need to be disclosed according to the applicable regulations.

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## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### If inhaled

After inhalation: fresh air.

#### 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. Remove contact lenses.

#### If swallowed

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

### 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

Water Foam Carbon dioxide (CO<sub>2</sub>) 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 (NO<sub>x</sub>)

Combustible.

Fire may cause evolution of:

nitrogen oxides

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

In the event of fire, wear self-contained breathing apparatus.



#### 5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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### SECTION 6: Accidental release measures

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

Advice for non-emergency personnel: Do not breathe vapors, aerosols. 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 with liquid-absorbent and neutralising material (e.g. Chemizorb® OH<sup>-</sup>, Merck Art. No. 101596). Dispose of properly. Clean up affected area.

#### 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

For precautions see section 2.2.

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

##### Storage conditions

Tightly closed.

Recommended storage temperature see product label.

#### 7.3 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

#### 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). 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](http://www.kcl.de)).

Full contact

Material: Latex gloves

Minimum layer thickness: 0,6 mm

Break through time: 480 min

Material tested:Lapren® (KCL 706 / Aldrich Z677558, Size M)

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](http://www.kcl.de)).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 60 min

Material tested:KCL 741 Dermatril® L

### **Respiratory protection**

Not required; except in case of aerosol formation.

### **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: liquid Color: light yellow
b) Odor	amine-like
c) Odor Threshold	No data available
d) pH	10,5 - 11,5 at 149 g/l at 25 °C
e) Melting point/freezing point	Melting point: 20,5 °C
f) Initial boiling point and boiling range	335,4 °C at 1.013 hPa - (ECHA)
g) Flash point	179 °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: 7,2 %(V) Lower explosion limit: 1,3 %(V)
k) Vapor pressure	No data available
l) Vapor density	5,15 - (Air = 1.0)
m) Relative density	No data available



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|----|---|--|
| n) | Water solubility                          | 149 g/l at 20 °C - completely soluble  |
| o) | Partition coefficient:<br>n-octanol/water | No data available  |
| p) | Autoignition<br>temperature               | No data available  |
| q) | Decomposition<br>temperature              | No data available  |
| r) | Viscosity                                 | Viscosity, kinematic: No data available<br>Viscosity, dynamic: No data available |
| s) | Explosive properties                      | No data available  |
| t) | Oxidizing properties                      | No data available  |

## 9.2 Other safety information

Dissociation constant 7,86 at 25 °C

Relative vapor density 5,15 - (Air = 1.0)

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## 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

Caution! In contact with nitrites, nitrates, nitrous acid possible liberation of nitrosamines!

Exothermic reaction with:

anhydrides

halogenating agents

Nitriles

Oxidizing agents

acids

A risk of explosion and/or of toxic gas formation exists with the following substances:

Acid chlorides

### 10.4 Conditions to avoid

Strong heating.

### 10.5 Incompatible materials

nonferrous metals, Light metals

### 10.6 Hazardous decomposition products

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 - male and female - 6.400 mg/kg  
(OECD Test Guideline 401)  
Inhalation: No data available  
LD50 Dermal - Rabbit - > 2.000 mg/kg  
(OECD Test Guideline 402)

#### Skin corrosion/irritation

Skin - Rabbit  
Result: No skin irritation - 4 h  
(OECD Test Guideline 404)

#### Serious eye damage/eye irritation

Eyes - Rabbit  
Result: No eye irritation  
(OECD Test Guideline 405)

#### Respiratory or skin sensitization

Maximization Test - Guinea pig  
Result: negative  
(OECD Test Guideline 406)

#### Germ cell mutagenicity

Test Type: In vitro mammalian cell gene mutation test  
Test system: mouse lymphoma cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative  
Test Type: sister chromatid exchange assay  
Test system: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Result: negative  
Remarks: (ECHA)  
Test Type: Mutagenicity (mammal cell test): chromosome aberration.  
Test system: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative  
Test Type: Ames test  
Test system: *S. typhimurium*  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative

#### Carcinogenicity

No data available

#### 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

## 11.2 Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 91 Days - NOAEL (No observed adverse effect level) - 1.000 mg/kg

Repeated dose toxicity - Rat - male - Dermal - 90 Days - NOAEL (No observed adverse effect level) - 125 mg/kg

Kidney injury may occur., Dermatitis

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Liver - Irregularities - Based on Human Evidence

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## SECTION 12: Ecological information

### 12.1 Toxicity

Toxicity to fish                      flow-through test LC50 - Pimephales promelas (fathead minnow) - 11.800 mg/l - 96 h  
Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates                      static test EC50 - Ceriodaphnia dubia (water flea) - 609,88 mg/l - 48 h  
Remarks: (ECHA)

Toxicity to algae                      static test ErC50 - Desmodesmus subspicatus (green algae) - 216 mg/l - 72 h  
(DIN 38412)  
Remarks: (ECHA)

Toxicity to bacteria                      static test IC50 - activated sludge - > 1.000 mg/l - 3 h  
(OECD Test Guideline 209)

### 12.2 Persistence and degradability

Biodegradability                      aerobic - Exposure time 5 d  
Result: ca.100 % - rapidly biodegradable  
Remarks: (ECHA)

Theoretical oxygen demand                      2.040 mg/g  
Remarks: (IUCLID)

### 12.3 Bioaccumulative potential

Bioaccumulation                      Cyprinus carpio (Carp) - 6 Weeks  
at 25 °C - 0,25 mg/l(Triethanolamine)

Bioconcentration factor (BCF): < 3,9  
(OECD Test Guideline 305)

Cyprinus carpio (Carp) - 6 Weeks



at 25 °C - 2,5 mg/l(Triethanolamine)

Bioconcentration factor (BCF): < 0,4  
(OECD Test Guideline 305)

#### 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 Other adverse effects

Biological effects:

Harmful effect due to pH shift.

Hazard for drinking water supplies.

Discharge into the environment must be avoided.

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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

##### Product

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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### SECTION 14: Transport information

#### 14.1 UN number

ADR/RID: -

IMDG: -

IATA: -

#### 14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

#### 14.3 Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA: -

#### 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

##### Further information

Not classified as dangerous in the meaning of transport regulations.

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### SECTION 15: Regulatory information

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

Millipore- 1.37148

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The life science business of Merck operates as MilliporeSigma in the US and Canada





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

## 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

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### 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](http://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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