1. Identification

Product identifier used on the label

Triethanolamine pure

Recommended use of the chemical and restriction on use
Recommended use*: cosmetics; Chemical; formulation agent; initial product for chemical syntheses

* The “Recommended use” identified for this product is provided solely to comply with a US Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Synonyms: Triethanolamine
Use: chemical used in synthesis and/or formulation of industrial products

2. Hazards Identification


Classification of the product

No need for classification according to GHS criteria for this product.

Label elements

The product does not require a hazard warning label in accordance with GHS criteria.
Hazards not otherwise classified

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.


Emergency overview

NO PARTICULAR HAZARDS KNOWN.
Use with local exhaust ventilation.
Eye wash fountains and safety showers must be easily accessible.
Wear suitable protective clothing, gloves and eye/face protection.

3. Composition / Information on Ingredients


This product does not contain any components classified as hazardous under the referenced regulation.


This product is not regarded as hazardous under current OSHA Hazard Communication standard; CFR 29 Part 1910.1200.

4. First-Aid Measures

Description of first aid measures

General advice:
Remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air. Seek medical attention if necessary.

If on skin:
Wash off thoroughly with ample water.
If irritation develops, seek medical attention.

If in eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open.
If irritation develops, seek immediate medical attention.

If swallowed:
Rinse mouth and then drink plenty of water. Do not induce vomiting. Immediate medical attention required.

Most important symptoms and effects, both acute and delayed

Symptoms: No significant symptoms are expected due to the non-classification of the product.

Indication of any immediate medical attention and special treatment needed
Note to physician
Treatment: Symptomatic treatment (decontamination, vital functions).

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
water spray, dry powder, foam, carbon dioxide

Special hazards arising from the substance or mixture
Hazards during fire-fighting:
nitrogen oxides, carbon oxides
The substances/groups of substances mentioned can be released in case of fire. Under certain conditions in case of fire other hazardous combustion products may be generated.

Advice for fire-fighters
Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:
Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Impact Sensitivity:
Remarks: Based on the chemical structure there is no shock-sensitivity.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Handle in accordance with good industrial hygiene and safety practice.

Environmental precautions
Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up
For large amounts: Pump off product.
For residues: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr). Dispose of absorbed material in accordance with regulations.

Spills should be contained, solidified, and placed in suitable containers for disposal.

7. Handling and Storage

Precautions for safe handling
Ensure thorough ventilation of stores and work areas. Handle in accordance with good industrial hygiene and safety practice. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.

Protection against fire and explosion:
Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.
Conditions for safe storage, including any incompatibilities
Segregate from acids and acid forming substances.

Suitable materials for containers: carbon steel (iron), Stainless steel 1.4401, Stainless steel 1.4301 (V2), High density polyethylene (HDPE), glass, Low density polyethylene (LDPE)

Further information on storage conditions: Containers should be stored tightly sealed in a dry place.

Storage stability:
Storage temperature: 20 - 40 °C
Storage duration: 12 Months
May discolour after lengthy storage.
From the data on storage duration in this safety data sheet no agreed statement regarding the warrantee of application properties can be deduced.

8. Exposure Controls/Personal Protection

Advice on system design:
Provide adequate exhaust ventilation to control work place concentrations.

Personal protective equipment
Respiratory protection:

Respiratory protection in case of vapour/aerosol release.

Hand protection:
Wear chemical resistant protective gloves., Consult with glove manufacturer for testing data.

Chemical resistant protective gloves (EN 374), Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374); e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7 mm) and other, Manufacturer's directions for use should be observed because of great diversity of types., Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Eye protection:
Tightly fitting safety goggles (chemical goggles).

Body protection:
Body protection must be chosen based on level of activity and exposure.

No body protection required if used for intended purpose and satisfying generally accepted industrial hygiene rules.

General safety and hygiene measures:
Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is required additionally to the stated personal protection equipment.
9. Physical and Chemical Properties

Form: 100 %(m): viscous
Odour: amine-like
Odour threshold: not determined
Colour: colourless to pale yellow
pH value: 10.3 (10 g/l, 20 °C)
melting range: 18 - 23 °C
Boiling point: 336.1 °C (1,013 hPa) The substance / product decomposes.
Flash point: 179 °C (Unspecified, closed cup) Literature data.
Flammability: not flammable
Lower explosion limit: For liquids not relevant for classification and labelling. The lower explosion point may be 5 - 15 °C below the flash point.
Upper explosion limit: For liquids not relevant for classification and labelling.
Autoignition: 324 °C Literature data.
Vapour pressure: 0.00029 hPa (20 °C) Literature data.
Density: 1.125 g/cm3 (20 °C)
Partitioning coefficient n-octanol/water (log Pow): -2.3 (25 °C) (OECD Guideline 107)
Self-ignition temperature: not self-igniting
Thermal decomposition: 305 °C, 580 kJ/kg Thermal decomposition above the indicated temperature is possible.
Viscosity, dynamic: 934 mPa.s (20 °C) (calculated (from kinematic viscosity))
Viscosity, kinematic: 830.2 mm2/s (20.5 °C) (OECD 114)
Solubility in water: > 1,000 g/l (20 °C) miscible
Miscibility with water: (20 °C) miscible in all proportions
Solubility (quantitative): No applicable information available.
Solubility (qualitative): No applicable information available.
Molar mass: 149.19 g/mol
Evaporation rate: Value can be approximated from Henry's Law Constant or vapor pressure.

10. Stability and Reactivity

Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:
Corrosive effects to metal are not anticipated.

Oxidizing properties:
Based on its structural properties the product is not classified as oxidizing. (other)
Formation of flammable gases:
Remarks: Forms no flammable gases in the presence of water.

Chemical stability
The product is stable if stored and handled as prescribed/indicated.
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Triethanolamine pure  
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**Possibility of hazardous reactions**
Reacts with acids. Reacts with oxidizing agents. Reacts with acid chlorides. Reacts with halogenated compounds. The progress of reaction is exothermic. Incompatible with acid chlorides and acid anhydrides.

**Conditions to avoid**
Avoid extreme temperatures. See MSDS section 7 - Handling and storage.

**Incompatible materials**
oxidizing agents, nitrosating agents, acids, acid forming substances

**Hazardous decomposition products**
Decomposition products:  
No hazardous decomposition products if stored and handled as prescribed/indicated.  
Hazardous decomposition products: carbon oxides, nitrogen oxides, nitrous gases

Thermal decomposition:  
305 °C, 2.5 K/min  
Thermal decomposition above the indicated temperature is possible.

11. Toxicological information

**Primary routes of exposure**
Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

**Acute Toxicity/Effects**

**Acute toxicity**
Assessment of acute toxicity: Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact.
Inhalation-risk test (IRT): No mortality within 8 hours as shown in animal studies. The inhalation of a highly saturated vapor-air mixture represents no acute hazard.

**Oral**
Type of value: LD50  
Species: rat (male/female)  
Value: approx. 7,200 mg/kg (BASF-Test)

**Inhalation**
Study does not need to be conducted.

**Dermal**
Type of value: LD50  
Species: rabbit  
Value: > 2,000 mg/kg (OECD Guideline 402)

**Assessment other acute effects**
Assessment of STOT single:  
The available information is not sufficient for evaluation.

**Irritation / corrosion**
Assessment of irritating effects: Not irritating to the skin. Not irritating to the eyes.

Skin
Species: rabbit
Result: non-irritant
Method: OECD Guideline 404

Eye
Species: rabbit
Result: non-irritant
Method: BASF-Test

Sensitization
Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

Guinea pig maximization test
Species: guinea pig
Result: Non-sensitizing.
Method: OECD Guideline 406

Aspiration Hazard
No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: No adverse effects were observed after repeated exposure in animal studies.

Genetic toxicity
Assessment of mutagenicity: No mutagenic effect was found in various tests with bacteria and mammalian cell culture.
The substance was not genotoxic in mammalian cell culture.

Carcinogenicity
Assessment of carcinogenicity: Indication of possible carcinogenic effect in animal tests. The substance showed carcinogenic activity in animals after chronic administration to the skin. IARC Group 3 (not classifiable as to human carcinogenicity).

Reproductive toxicity
Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect.

Teratogenicity
Assessment of teratogenicity: Causes developmental effects in animals at high, maternally toxic doses.

Symptoms of Exposure

No significant symptoms are expected due to the non-classification of the product.

12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

**Toxicity to fish**
LC50 (96 h) 11,800 mg/l, Pimephales promelas (Fish test acute, Flow through.)
The product will cause changes in the pH value of the test system. The result refers to an neutralized sample. The statement of the toxic effect relates to the analytically determined concentration. Literature data.

**Aquatic invertebrates**
EC50 (24 h) 2,038 mg/l, Daphnia magna (Daphnia test acute)
The details of the toxic effect relate to the nominal concentration. Literature data.

**Aquatic plants**
EC50 (72 h) 512 mg/l (growth rate), Scenedesmus subspicatus (DIN 38412 Part 9, static)
The details of the toxic effect relate to the nominal concentration. The product will cause changes in the pH value of the test system. The result refers to an neutralized sample. Literature data.

EC10 (72 h) 26 mg/l (growth rate), Scenedesmus subspicatus (DIN 38412 Part 9, static)
The details of the toxic effect relate to the nominal concentration. The product will cause changes in the pH value of the test system. The result refers to an neutralized sample. Literature data.

**Chronic toxicity to fish**
Study scientifically not justified.

**Chronic toxicity to aquatic invertebrates**
No observed effect concentration (21 d) 16 mg/l, Daphnia magna (other, semistatic)
Literature data.

**Assessment of terrestrial toxicity**
With high probability not acutely harmful to terrestrial organisms.

**Soil living organisms**
Toxicity to soil dwelling organisms:
Study scientifically not justified.

**Toxicity to terrestrial plants**
Study scientifically not justified.

**Other terrestrial non-mammals**
LC50 (3 d) 49,950 mg/kg, Drosophila melanogaster

**Microorganisms/Effect on activated sludge**

Toxicity to microorganisms
OECD Guideline 209 activated sludge, domestic/EC50 (180 min): > 1,000 mg/l
The details of the toxic effect relate to the nominal concentration. Literature data.

DIN 38412 Part 8 aquatic bacterium/Toxic limit concentration (16 h): > 10,000 mg/l
The details of the toxic effect relate to the nominal concentration. Literature data.

**Persistence and degradability**
Assessment biodegradation and elimination (H2O)
Readily biodegradable (according to OECD criteria). Literature data.

Elimination information

100 % CO2 formation relative to the theoretical value (5 d) (aerobic, activated sludge, domestic)

90 - 100 % DOC reduction (19 d) (OECD 301E/92/69/EEC, C.4-B) (aerobic, municipal sewage treatment plant effluent)

Assessment of stability in water
According to structural properties, hydrolysis is not expected/probable.

Bioaccumulative potential

Assessment bioaccumulation potential
Does not accumulate in organisms.

Bioaccumulation potential
Bioconcentration factor: < 0.4 (42 d), Cyprinus carpio (OECD Guideline 305 C)
Literature data.

Mobility in soil

Assessment transport between environmental compartments
The substance will not evaporate into the atmosphere from the water surface. Adsorption to solid soil phase is not expected.

13. Disposal considerations

Waste disposal of substance:
Dispose of in accordance with national, state and local regulations.

Container disposal:
Dispose of container and any rinseate in an environmentally safe manner.

14. Transport Information

Land transport
USDOT
Not classified as a dangerous good under transport regulations

Sea transport
IMDG
Not classified as a dangerous good under transport regulations

Air transport
IATA/ICAO
Not classified as a dangerous good under transport regulations

Further information
DOT: This product is regulated if the amount in a single receptacle exceeds the Reportable Quantity (RQ). Please refer to Section 15 of this MSDS for the RQ for this product.
15. Regulatory Information

**Federal Regulations**

Registration status:
- Chemical: TSCA, US released / listed
- Cosmetic: TSCA, US released / exempt

EPCRA 311/312 (Hazard categories): Not hazardous;

<table>
<thead>
<tr>
<th>EPCRA 313:</th>
<th>Chemical name</th>
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<tbody>
<tr>
<td>CAS Number</td>
<td>2,2'-iminodiethanol</td>
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<tr>
<td>111-42-2</td>
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CERCLA RQ

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Chemical name</th>
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</thead>
<tbody>
<tr>
<td>100 LBS</td>
<td>111-42-2, 2,2'-iminodiethanol</td>
</tr>
<tr>
<td>1 LBS</td>
<td>1116-54-7, Ethanol, 2,2'-(nitrosoimino)bis-</td>
</tr>
</tbody>
</table>

**NFPA Hazard codes:**
- Health: 0
- Fire: 1
- Reactivity: 0
- Special:

**HMIS III rating**
- Health: 0
- Flammability: 1
- Physical hazard: 1

**Assessment of the hazard classes according to UN GHS criteria (most recent version):**

16. Other Information

**SDS Prepared by:**
- BASF NA Product Regulations
- SDS Prepared on: 2014/06/18

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