

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Ethanolamine &gt; 99 % for analysis

Revision date: 26.07.2023

Product code: 21095

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

Ethanolamine &gt; 99 % for analysis

REACH Registration Number: 01-2119486455-28-XXXX  
CAS No: 141-43-5  
Index No: 603-030-00-8  
EC No: 205-483-3

**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

**Uses advised against**

Do not use for private purposes (household).

**1.3. Details of the supplier of the safety data sheet**

Company name: AnalytiChem GmbH  
Street: Stempelstraße 6  
Place: D-47167 Duisburg  
Telephone: 0203/5194-0  
E-mail: info@analytichem.de  
Contact person: Abteilung Produktsicherheit  
E-mail: produktsicherheit@analytichem.de  
Internet: www.analytichem.de  
Responsible Department: Abteilung Produktsicherheit

Telefax: 0203/5194-290  
Telephone: 0203/5194-107/117

**1.4. Emergency telephone number:**

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

**Further Information**

No data available

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

Acute Tox. 4; H332  
Acute Tox. 4; H312  
Acute Tox. 4; H302  
Skin Corr. 1B; H314  
STOT SE 3; H335

Full text of hazard statements: see SECTION 16.

**2.2. Label elements****Regulation (EC) No 1272/2008****Signal word:** Danger**Pictograms:**

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**Hazard statements**

H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.  
H314 Causes severe skin burns and eye damage.  
H335 May cause respiratory irritation.

**Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
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/doctor.

**2.3. Other hazards**

No data available

**SECTION 3: Composition/information on ingredients**

**3.1. Substances**

Sum formula: NH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>OH  
Molecular weight: 61,08 g/mol

**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
141-43-5	2-aminoethanol			100 %
	205-483-3	603-030-00-8	01-2119486455-28-XXXX	
	Acute Tox. 4, Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, STOT SE 3; H332 H312 H302 H314 H335			

Full text of H and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
141-43-5	205-483-3	2-aminoethanol	100 %
	inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = 2504 mg/kg; oral: LD50 = ca. 1515 mg/kg STOT SE 3; H335: >= 5 - 100		

**Further Information**

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

**General information**

Self-protection of the first aider

**After inhalation**

Provide fresh air.  
If breathing is irregular or stopped, administer artificial respiration.  
Call a physician immediately.

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#### After contact with skin

Wash immediately with: Water  
Take off immediately all contaminated clothing and wash it before reuse.  
Call a physician immediately.

#### After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

#### After ingestion

Rinse mouth immediately and drink plenty of water.  
Do not allow a neutralisation agent to be drunk. Do NOT induce vomiting.  
Call a physician immediately.

#### 4.2. Most important symptoms and effects, both acute and delayed

Irritant  
corrosive  
Dyspnoea  
Risk of serious damage to eyes.  
Cough  
Gastrointestinal complaints  
Dizziness

#### 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

Foam  
Carbon dioxide (CO<sub>2</sub>)  
Extinguishing powder  
Water

#### Unsuitable extinguishing media

no restriction

### 5.2. Special hazards arising from the substance or mixture

Combustible liquids  
Hazardous combustion products  
In case of fire may be liberated:  
Nitrogen oxides (NO<sub>x</sub>)  
Carbon dioxide (CO<sub>2</sub>) Carbon monoxide  
In case of warming:  
Vapours are heavier than air, spread along floors and form explosive mixtures with air.  
Heating causes rise in pressure with risk of bursting.

### 5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.  
In case of fire and/or explosion do not breathe fumes.  
Avoid contact with skin, eyes and clothes.

#### Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.  
Move undamaged containers from immediate hazard area if it can be done safely.  
Use water spray jet to protect personnel and to cool endangered containers.

## SECTION 6: Accidental release measures

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

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#### For non-emergency personnel

- Provide adequate ventilation.
- Use personal protection equipment.
- Avoid contact with skin, eyes and clothes.
- Remove persons to safety.
- Emergency procedures
- Do not breathe dust/fume/gas/mist/vapours/spray.

#### For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

#### 6.2. Environmental precautions

Do not allow to enter into surface water or drains.

#### 6.3. Methods and material for containment and cleaning up

##### For containment

- Cover drains.
- Prevent spread over a wide area (e.g. by containment or oil barriers).
- Collect in closed and suitable containers for disposal.
- Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

##### For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

##### Other information

- Provide adequate ventilation.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- Wear breathing apparatus if exposed to vapours/dusts/aerosols.

#### 6.4. Reference to other sections

- Safe handling: see section 7
- Personal protection equipment: see section 8
- Disposal: see section 13

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Advice on safe handling

- Read label before use. Handle and open container with care.
- When using do not eat, drink, smoke, sniff. Keep container tightly closed.
- Use personal protection equipment. Use extractor hood (laboratory).
- Do not breathe gas/fumes/vapour/spray. Provide adequate ventilation.

#### Advice on protection against fire and explosion

- Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges.
- In case of warming:  
Vapours are heavier than air, spread along floors and form explosive mixtures with air.

#### Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs.

#### Further information on handling

- Take off immediately all contaminated clothing and wash it before reuse.
- Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. If handled uncovered, arrangements with local exhaust ventilation have to be used.

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

#### Requirements for storage rooms and vessels

- Store in a well-ventilated place.
- Keep container tightly closed.

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**Further information on storage conditions**

Keep cool. Protect from sunlight.  
storage temperature +15°C - +25°C  
Protect against:  
Air  
Humidity

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

Laboratory chemicals

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

**8.1. Control parameters**

**Occupational exposure limits**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
141-43-5	Ethanolamine (2-Aminoethanol)	1	2.5		TWA (8 h)	
		3	7.6		STEL (15 min)	

**DNEL/DMEL values**

CAS No	Substance	Exposure route	Effect	Value
141-43-5	2-aminoethanol			
Worker DNEL, long-term		inhalation	local	3,3 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	1 mg/kg bw/day
Consumer DNEL, long-term		inhalation	local	2 mg/m <sup>3</sup>
Consumer DNEL, long-term		dermal	systemic	0,24 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	3,75 mg/kg bw/day

**PNEC values**

CAS No	Substance	Value
141-43-5	2-aminoethanol	
Freshwater		0,085 mg/l
Freshwater (intermittent releases)		0,028 mg/l
Marine water		0,009 mg/l
Freshwater sediment		0,434 mg/kg
Marine sediment		0,043 mg/kg
Micro-organisms in sewage treatment plants (STP)		100 mg/l
Soil		0,037 mg/kg

**8.2. Exposure controls**

**Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

**Individual protection measures, such as personal protective equipment**

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#### Eye/face protection

goggles  
Face protection umbrella

#### Hand protection

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) With specification (test according to EN374):

By long-term hand contact  
Trade name/designation KCL 720 Camapren®  
Suitable material: CR (polychloroprene, chloroprene rubber) 0,65 mm  
Wearing time with permanent contact > 480 min

By short-term hand contact  
Trade name/designation KCL 720 Camapren®  
Suitable material: CR (polychloroprene, chloroprene rubber) 0,65 mm  
Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. 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)).

#### Skin protection

Take off immediately all contaminated clothing and wash it before reuse.  
Wear fire resistant or flame retardant clothing.  
Wash hands and face before breaks and after work and take a shower if necessary.  
Draw up and observe skin protection programme.

#### Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols.  
Filtering device with filter or ventilator filtering device of type: A

#### Environmental exposure controls

Do not allow to enter into surface water or drains.

## SECTION 9: Physical and chemical properties

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

Physical state:	Liquid
Colour:	colourless
Odour:	like: Ammonia
Odour threshold:	No data available
Melting point/freezing point:	10,5 °C
Boiling point or initial boiling point and boiling range:	170 °C
Flammability:	No data available
Lower explosion limits:	3,4 vol. %
Upper explosion limits:	27 vol. %
Flash point:	92,5 °C
Auto-ignition temperature:	780 °C
Decomposition temperature:	No data available
pH-Value (at 20 °C):	12,1 (100 g/l)
Viscosity / kinematic: (at 23 °C)	20 mm <sup>2</sup> /s

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Water solubility: (at 20 °C)	Soluble in: Water
Solubility in other solvents No data available	
Dissolution rate:	No data available
Partition coefficient n-octanol/water:	log Pow: -1,91 (25 °C)
Dispersion stability:	No data available
Vapour pressure:	No data available
Vapour pressure:	No data available
Density:	1,015 g/cm <sup>3</sup>
Relative density:	No data available
Bulk density:	No data available
Relative vapour density:	No data available
Particle characteristics:	No data available

**9.2. Other information****Information with regard to physical hazard classes**

## Explosive properties

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

## Sustaining combustion:

Sustaining combustion

## Self-ignition temperature

Solid:

No data available

Gas:

No data available

## Oxidizing properties

No data available

**Other safety characteristics**

## Evaporation rate:

No data available

## Solvent separation test:

No data available

## Solvent content:

No data available

## Solid content:

No data available

## Sublimation point:

No data available

## Softening point:

No data available

## Pour point:

No data available

No data available

## Viscosity / dynamic:

No data available

## Flow time:

No data available

**Further Information**

No data available

**SECTION 10: Stability and reactivity****10.1. Reactivity**

In case of warming:

Vapours may form explosive mixtures with air.

**10.2. Chemical stability**

Protect against:

Air

Humidity

**10.3. Possibility of hazardous reactions**

Acrolein

Nitriles

Hydrochloric gas

Acetic acid

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Acetic anhydride  
sulphuric acid  
Oxidising agent  
Nitric acid

**10.4. Conditions to avoid**

Air  
Humidity  
Heat

**10.5. Incompatible materials**

copper  
Copper alloys  
Rubber articles

**10.6. Hazardous decomposition products**

SECTION 5: Firefighting measures

**Further information**

No data available

**SECTION 11: Toxicological information**

**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

**Toxicokinetics, metabolism and distribution**

No data available

**Acute toxicity**

Harmful if swallowed.  
Harmful in contact with skin.  
Harmful if inhaled.  
If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).  
Pulmonary oedema

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
141-43-5	2-aminoethanol				
	oral	LD50 mg/kg	ca. 1515	Rat	Study report (1966) OECD Guideline 401
	dermal	LD50 mg/kg	2504	Rabbit	Study report (1988) OECD Guideline 402
	inhalation vapour	ATE	11 mg/l		
	inhalation dust/mist	ATE	1,5 mg/l		

**Irritation and corrosivity**

Causes severe skin burns and eye damage.  
Causes serious eye damage.

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.

**STOT-single exposure**

May cause respiratory irritation. (2-aminoethanol)  
Liver and kidney damage

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.



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**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Information on likely routes of exposure**

No data available

**Specific effects in experiment on an animal**

No data available

**Additional information on tests**

No data available

**Practical experience**

No data available

**11.2. Information on other hazards**

**Endocrine disrupting properties**

No data available

**Other information**

No data available

**Further information**

Irritant  
corrosive  
Dyspnoea  
Risk of serious damage to eyes.  
Cough  
Gastrointestinal complaints  
Dizziness

**SECTION 12: Ecological information**

**12.1. Toxicity**

Based on available data, the classification criteria are not met.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
141-43-5	2-aminoethanol					
	Acute fish toxicity	LC50 349 mg/l	96 h	Cyprinus carpio	Study report (1997)	other: Directive 92/69/EEC, C.1.
	Acute algae toxicity	ErC50 2,8 mg/l	72 h	Pseudokirchneriella subcapitata	unpublished (1997)	OECD Guideline 201
	Acute crustacea toxicity	EC50 65 mg/l	48 h	Daphnia magna	Study report (1997)	EU Method C.2
	Fish toxicity	NOEC mg/l 1,24	41 d	Oryzias latipes	unpublished (2008)	OECD Guideline 210
	Crustacea toxicity	NOEC mg/l 0,85	21 d	Daphnia magna	unpublished (1997)	other: OECD 202 "Daphnia sp., Acute Immo

**12.2. Persistence and degradability**

90 - 100 %; 28 d  
OECD 301F  
Readily biodegradable (according to OECD criteria).

**12.3. Bioaccumulative potential**

log Pow: -1,91 (25 °C)  
No indication of bioaccumulation potential.

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**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
141-43-5	2-aminoethanol	-2,3

**BCF**

CAS No	Chemical name	BCF	Species	Source
141-43-5	2-aminoethanol	2,3		SAR and QSAR in Envi

**12.4. Mobility in soil**

No data available

**12.5. Results of PBT and vPvB assessment**

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

**12.6. Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

**12.7. Other adverse effects**

Do not allow to enter into surface water or drains.

**Further information**

Avoid release to the environment.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not empty into drains.

**Contaminated packaging**

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

**SECTION 14: Transport information****Land transport (ADR/RID)**

<b>14.1. UN number or ID number:</b>	UN 2491
<b>14.2. UN proper shipping name:</b>	ETHANOLAMINE
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	III
Hazard label:	8
Classification code:	C7
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	80
Tunnel restriction code:	E

**Inland waterways transport (ADN)**

<b>14.1. UN number or ID number:</b>	UN 2491
<b>14.2. UN proper shipping name:</b>	ETHANOLAMINE
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	III
Hazard label:	8
Classification code:	C7
Limited quantity:	5 L

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Excepted quantity: E1

**Marine transport (IMDG)**

**14.1. UN number or ID number:** UN 2491  
**14.2. UN proper shipping name:** ETHANOLAMINE  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** III  
Hazard label: 8  
Special Provisions: 223  
Limited quantity: 5 L  
Excepted quantity: E1  
EmS: F-A, S-B

**Air transport (ICAO-TI/IATA-DGR)**

**14.1. UN number or ID number:** UN 2491  
**14.2. UN proper shipping name:** ETHANOLAMINE  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** III  
Hazard label: 8  
Special Provisions: A3 A803  
Limited quantity Passenger: 1 L  
Passenger LQ: Y841  
Excepted quantity: E1  
IATA-packing instructions - Passenger: 852  
IATA-max. quantity - Passenger: 5 L  
IATA-packing instructions - Cargo: 856  
IATA-max. quantity - Cargo: 60 L

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Restrictions on use (REACH, annex XVII):  
Entry 3

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

**National regulatory information**

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D): 1 - slightly hazardous to water

**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 12.

**Abbreviations and acronyms**

Acute Tox: Acute toxicity  
Skin Corr: Skin corrosion  
Eye Dam: Eye damage  
STOT SE: Specific target organ toxicity - single exposure

**Relevant H and EUH statements (number and full text)**

H302 Harmful if swallowed.  
H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.

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H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

#### Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.