

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

AMINOETHYLETHANOLAMINE (AEEA)

Version 4

Revision Date 30.04.2019

Print Date 06.11.2019

GB / EN

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name : AMINOETHYLETHANOLAMINE (AEEA)

Substance name : 2-(2-aminoethylamino)ethanol

REACH Registration Number : 01-2119456894-24-0002

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

Use of the Substance/Mixture : Specific use(s): Chemical intermediate

1.3 Details of the supplier of the safety data sheet

Company : Nouryon
Functional Chemicals AB
SE 444 85 Stenungsund
Sweden

Telephone : +4630385000

Telefax : +46303770551

E-mail address : QTS@nouryon.com

1.4 Emergency telephone number

Emergency telephone number : 24 hours emergency response number: +31 57 06 79211
Kemiakuten-SE: 020 99 60 00

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin corrosion, 1B, H314

Serious eye damage, 1, H318

Skin sensitisation, 1B, H317

Reproductive toxicity, 1B, H360Df

Effects on or via lactation, H362

Specific target organ toxicity - single exposure, 3, Respiratory system, H335

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

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2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Pictogram



Signal word

: Danger

Hazard statements

: H314

Causes severe skin burns and eye damage.

H317

May cause an allergic skin reaction.

H335

May cause respiratory irritation.

H360Df

May damage the unborn child.

Suspected of damaging fertility.

H362

May cause harm to breast-fed children.

Precautionary statements

: **Prevention:**

P201

Obtain special instructions before use.

P263

Avoid contact during pregnancy and while nursing.

P280

Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P303 + P361 + P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

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.

P308 + P313

IF exposed or concerned: Get medical advice/ attention.

Hazardous components which must be listed on the label:

Aminoethylethanolamine

111-41-1

Additional Labelling:

Restricted to professional users.

2.3 Other hazards

No further data available.

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.

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Pure substance/mixture : Substance

Hazardous substance

Chemical name	PBT vPvB OEL	CAS-No. EC-No. REACH No.	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
Aminoethylethanolamine		111-41-1 203-867-5 01-2119456894-24	Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1B; H317 Repr. 1B; H360Df Lact. H362 STOT SE 3; H335	>= 90 - <= 100

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).

Status : Not applicable

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

- General advice : Immediate medical attention is required.
Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
- If inhaled : If breathed in, move person into fresh air.
Consult a physician after significant exposure.
- In case of skin contact : Take off contaminated clothing and shoes immediately.
Rinse immediately with plenty of water.
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
If skin irritation persists, call a physician.
- In case of eye contact : Rinse with plenty of water.
Get medical attention immediately. Continue to rinse during transport.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
- If swallowed : Clean mouth with water and drink afterwards plenty of water.
Never give anything by mouth to an unconscious person.

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Take victim immediately to hospital.
Do not induce vomiting! May cause chemical burns in mouth and throat.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.
- Risks : May cause an allergic skin reaction.
Causes serious eye damage.
May cause respiratory irritation.
May damage the unborn child. Suspected of damaging fertility.
May cause harm to breast-fed children.
Causes severe burns.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically.

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

- Specific hazards during firefighting / Specific hazards arising from the chemical : Do not allow run-off from fire fighting to enter drains or water courses.
- Combustion products : Carbon oxides
Nitrogen oxides (NO_x)

5.3 Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions : Use personal protective equipment.
Wear respiratory protection.
Ensure adequate ventilation.
- Emergency measures on accidental release : Evacuate personnel to safe areas.
Only qualified personnel equipped with suitable protective equipment may intervene.
Prevent unauthorised persons entering the zone.

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6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up /
Methods for containment : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

For disposal considerations see section 13.
For personal protection see section 8.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling : Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

: For personal protection see section 8.
Avoid formation of aerosol.
Do not breathe vapours or spray mist.
Avoid contact with skin.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.
Obtain special instructions before use.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Prevent unauthorized access.
Keep container tightly closed in a dry and well-ventilated place.
Reacts with copper, aluminium, zinc and their alloys.

Other data : No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : No information available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

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Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Engineering controls

This substance should be handled under strictly controlled conditions as specified in REACH regulation article 18(4). Site documentation to support safe handling arrangements in accordance with risk-based management system should be available at each manufacturing site. During the whole lifecycle all necessary measures should be undertaken to minimize emissions and any resulting exposure.

Effective exhaust ventilation system

Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Respiratory protection : In the case of vapour or aerosol formation use a respirator with an approved filter.
Wear full face mask supplied with:
Gas cartridge K (ammonia, green).

Hand protection

: butyl-rubber
Break through time: > 30 min
Glove thickness: \geq 0.2 mm
Wearing time
< 30 minutes

butyl-rubber
Break through time: > 240 min
Glove thickness: \geq 0.6 mm
Wearing time
< 240 minutes

butyl-rubber
Break through time: > 480 min
Glove thickness: \geq 0.8 mm
Wearing time
< 480 minutes

The data about break through time/strength of material are standard values! The exact break through time/strength of material has to be obtained from the producer of the protective glove.

Eye protection : Safety glasses with side-shields conforming to EN166

Skin and body protection : Protective suit

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.
Wash contaminated clothing before re-use.

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Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.
If the product contaminates rivers and lakes or drains inform
respective authorities.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance

Form : Clear liquid
Colour : colourless
Odour : ammoniacal
Odour Threshold : No data available

Safety data

pH : 12 at 25 % solution
Melting point/freezing point : -38 °C
at 1,013 hPa
Boiling point/boiling range : 243 °C
at 1,013 hPa
Flash point : 132 °C
at 1,013 hPa
Ignition temperature : > 150 °C
Evaporation rate : No data available
Flammability (solid, gas) : Not applicable
Flammability (liquids) : Not classified as a flammability hazard
Lower explosion limit : No data available
Upper explosion limit : No data available
Vapour pressure : 0.012 hPa at 20 °C
Relative vapour density : 3.6
Density : 1,030 kg/m³ at 20 °C
1,024 kg/m³ at 25 °C
1,012 kg/m³ at 40 °C
Relative density : 1.026 at 25 °C

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Water solubility	: soluble
Solubility in other solvents	: Soluble in ethanol.
Partition coefficient: n-octanol/water	: log Pow: -1.46 at 25 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, dynamic	: 141 mPa.s at 20 °C
Viscosity, kinematic	: No data available
Explosive properties	: Not explosive
Oxidizing properties	: The substance or mixture is not classified as oxidizing.

9.2 Other information

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Stable under normal conditions.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Heating can release hazardous gases.

10.4 Conditions to avoid

Conditions to avoid : Extremes of temperature and direct sunlight.

10.5 Incompatible materials

Materials to avoid : Reacts with copper, aluminium, zinc and their alloys.
Strong acids and oxidizing agents
Halogenated compounds

10.6 Hazardous decomposition products

Hazardous decomposition products : Nitrogen oxides (NO_x)

Thermal decomposition : No data available

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Product information:

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Acute toxicity	:	Not classified based on available information.
Skin corrosion/irritation	:	Causes severe burns.
Serious eye damage/eye irritation	:	Causes serious eye damage.
Respiratory or skin sensitisation	:	Respiratory sensitisation: Not classified based on available information. Skin sensitisation: May cause an allergic skin reaction.
Germ cell mutagenicity	:	Not classified based on available information.
Carcinogenicity	:	Not classified based on available information.
Reproductive toxicity	:	May damage the unborn child. Suspected of damaging fertility. May cause harm to breast-fed children.
STOT - single exposure	:	May cause respiratory irritation.
STOT - repeated exposure	:	Not classified based on available information.
Aspiration hazard	:	Not classified based on available information.
Further information	:	May damage fertility or the unborn child.

Test result

Toxicology data for the components:

Aminoethylethanolamine

Acute toxicity:

Acute oral toxicity	:	LD50: > 2,000 - 4,000 mg/kg Species: Rat
Acute dermal toxicity	:	LD50: > 2,000 mg/kg Species: Rabbit
Skin corrosion/irritation	:	Result: Causes burns.
Serious eye damage/eye irritation	:	Result: Risk of serious damage to eyes.
Respiratory or skin sensitisation	:	Result: The product is a skin sensitiser, sub-category 1B.
Germ cell mutagenicity	:	
Genotoxicity in vitro	:	Ames test Result: negative
Genotoxicity in vivo	:	Chromosome aberration test in vivo Species: Mouse Method: OECD Test Guideline 474 Result: No evidence of genotoxic effects in vivo.
Carcinogenicity	:	Not classified due to data which are conclusive although insufficient for classification.

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CMR effectsReproductive toxicity	:	Effects on or via lactation, Presumed human reproductive toxicant
STOT - single exposure	:	May cause respiratory irritation.
STOT - repeated exposure	:	Not classified due to data which are conclusive although insufficient for classification.
Aspiration hazard	:	No data available

SECTION 12: ECOLOGICAL INFORMATION

Product information:

Ecotoxicology Assessment

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life.

12.1 Toxicity

Components:

Ecotoxicology Assessment

Aminoethylethanolamine

Short-term (acute) aquatic hazard : Harmful to aquatic life.

Additional ecological information : Harmful to aquatic organisms.

Test result

Aminoethylethanolamine

Toxicity to fish : LC50: > 100 mg/l
Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates : EC50: > 10 - 100 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)

12.2 Persistence and degradability

Product information:

Biodegradability : Result: Readily biodegradable.

Components:

Aminoethylethanolamine

Biodegradability : Result: Readily biodegradable.
Method: OECD Test Guideline 301F

12.3 Bioaccumulative potential

Product information:

Bioaccumulation : Bioaccumulation is unlikely.

Components:

Aminoethylethanolamine

Bioaccumulation : Bioaccumulation is unlikely.

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12.4 Mobility in soil

Product information:

Mobility : The product is miscible in water and readily biodegradable in both water and soil. Accumulation is not expected.

Components:

Aminoethylethanolamine

Mobility : The product is miscible in water and readily biodegradable in both water and soil. Accumulation is not expected.

12.5 Results of PBT and vPvB assessment

Product information:

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.

Components:

Aminoethylethanolamine

PBT and vPvB assessment : This substance is not considered to be a PBT (Persistent, Bioaccumulation, Toxic)
This substance is not considered to be vPvB (very Persistent nor very Bioaccumulating)

12.6 Other adverse effects

Product information:

Biochemical Oxygen Demand (BOD) : No data available

Components:

Aminoethylethanolamine

Biochemical Oxygen Demand (BOD) : No data available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Hazardous waste
Dispose of contents/container in accordance with local regulation.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

ADR : UN 2735
RID : UN 2735
IMDG-Code : UN 2735

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IATA-DGR : UN 2735

14.2 Proper shipping name

ADR : AMINES, LIQUID, CORROSIVE, N.O.S.
(Aminoethylethanolamine)

RID : AMINES, LIQUID, CORROSIVE, N.O.S.
(Aminoethylethanolamine)

IMDG-Code : AMINES, LIQUID, CORROSIVE, N.O.S.
(Aminoethylethanolamine)

IATA-DGR : Amines, liquid, corrosive, n.o.s.
(Aminoethylethanolamine)

14.3 Transport hazard class

ADR : 8

RID : 8

IMDG-Code : 8

IATA-DGR : 8

14.4 Packing group

ADR

Packing group : II

Classification Code : C7

Hazard Identification Number : 80

Labels : 8

Tunnel restriction code : (E)

RID

Packing group : II

Classification Code : C7

Hazard Identification Number : 80

Labels : 8

IMDG-Code

Packing group : II

Labels : 8

EmS Code : F-A, S-B

IATA-DGR

Packing instruction (cargo aircraft) : 855

Packing instruction (passenger aircraft) : 851

Packing instruction (LQ) : Y840

Packing group : II

Labels : 8

14.5 Environmental hazards

ADR

Environmentally hazardous : no

RID

Environmentally hazardous : no

IMDG-Code

Marine pollutant : no

IATA-DGR

Environmentally hazardous : no

14.6 Special precautions for user

Not applicable

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14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

SECTION 15: REGULATORY INFORMATION

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

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Not applicable

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)

: Banned and/or restricted:

- Aminoethylethanolamine

Notification status

DSL : YES. All components of this product are on the Canadian DSL
AICS : YES. On the inventory, or in compliance with the inventory
NZIoC : YES. On the inventory, or in compliance with the inventory
ENCS : YES. On the inventory, or in compliance with the inventory
ISHL : YES. On the inventory, or in compliance with the inventory
KECI : YES. On the inventory, or in compliance with the inventory
PICCS : YES. On the inventory, or in compliance with the inventory
IECSC : YES. On the inventory, or in compliance with the inventory
TCSI : YES. On the inventory, or in compliance with the inventory
TSCA : YES. All chemical substances in this product are either listed on the TSCA Inventory or in compliance with a TSCA Inventory exemption.

For explanation of abbreviation see section 16.

15.2 Chemical safety assessment

Aminoethylethanolamine : A Chemical Safety Assessment is not required for this substance.

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

H314 : Causes severe skin burns and eye damage.
H317 : May cause an allergic skin reaction.
H318 : Causes serious eye damage.
H335 : May cause respiratory irritation.
H360Df : May damage the unborn child. Suspected of damaging fertility.
H362 : May cause harm to breast-fed children.

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society

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for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.