Chemical Safety Data Sheet MSDS / SDS

2-(2-aminoethylamino)ethanol SDS

Revision Date:2024-04-25 Revision Number:1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name: 2-(2-aminoethylamino)ethanol

CAS: 111-41-1

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

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.

Uses advised against: none

Company Identification

Company: Chemicalbook.in

Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090

Telephone: +91 9550333722

SECTION 2: Hazards identification

Classification of the substance or mixture

Skin corrosion, Sub-category 1B
Skin sensitization, Category 1

Reproductive toxicity, Category 1B

GHS label elements, including precautionary statements

Pictogram(s)

Signal word Danger

Hazard statement(s)

H314 Causes severe skin burns and eye damage
H317 May cause an allergic skin reaction

Precautionary statement(s)

Prevention

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash ... thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P203 Obtain, read and follow all safety instructions before use.

Response

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P363 Wash contaminated clothing before reuse.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P316 Get emergency medical help immediately.
P321 Specific treatment (see ... on this label).
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302+P352 IF ON SKIN: Wash with plenty of water/...
P333+P317 If skin irritation or rash occurs: Get medical help.
P362+P364 Take off contaminated clothing and wash it before reuse.
P318 IF exposed or concerned, get medical advice.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

Substance

Chemical name:	2-(2-aminoethylamino)ethanol
Common names and synonyms:	2-(2-aminoethylamino)ethanol
CAS number:	111-41-1
EC number:	203-867-5
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison

Control Center immediately.

Most important symptoms/effects, acute and delayed

Skin contact will cause mild irritation; eye contact will cause more severe irritation. (USCG, 1999)

Indication of immediate medical attention and special treatment needed, if necessary

The ready availability of milk or water, acceptance by child & lack of toxic side effects make them diluents of choice for alkaline corrosive agents.

SECTION 5: Firefighting measures

Suitable extinguishing media

Alcohol foam, mist, dry chemical ...

Specific hazards arising from the chemical

This chemical is combustible. (NTP, 1992)

Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours.Avoid contacting with skin and eye. Use personal protective equipment.Wear chemical impermeable gloves. Ensure adequate ventilation.Remove all sources of ignition. Evacuate personnel to safe areas.Keep people away from and upwind of spill/leak.

Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Overspread sufficient sodium bisulfate and sprinkle water. Drain into the sewer with abundant water.

SECTION 7: Handling and storage

Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

Conditions for safe storage, including any incompatibilities

Store the container tightly closed in a dry, cool and well-ventilated place. Store apart from foodstuff containers or incompatible materials.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

Component	2-(2-aminoethylamino)ethanol			
CAS No.	111-41-1			
	Limit value - Eight hours		Limit value - Short term	
	ppm	mg/m^3	ppm	mg/m^3
Latvia	?	2	?	?
	Remarks			

Biological limit values

no data available

Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. 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.

Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Liquid.
Colour:	Colorless.
Odour:	MILD AMMONIACAL ODOR
Melting point/freezing point:	-38 °C. Remarks:Pour point.
Boiling point or initial boiling point and boiling range:	243.1 °C. Atm. press.:1 013.3 hPa.
Flammability:	no data available
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	132 °C. Atm. press.:1 013.25 hPa.
Auto-ignition temperature:	368 °C. Atm. press.:1 013.25 hPa.
Decomposition temperature:	no data available

pH:	no data available
Kinematic viscosity:	dynamic viscosity (in mPa s) = 141. Temperature:20°C.
Solubility:	greater than or equal to 100 mg/mL at 70° F (NTP, 1992)
Partition coefficient n-octanol/water:	log Pow = -1.46. Temperature:25 °C.
Vapour pressure:	0.012 hPa. Temperature:20 °C.
Density and/or relative density:	1 024 kg/m3. Temperature:25 °C.
Relative vapour density:	3.6 (vs air)
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

Water soluble. Hygroscopic.

Chemical stability

no data available

Possibility of hazardous reactions

MODERATE, WHEN EXPOSED TO HEAT OR FLAME ...AMINOETHYLETHANOLAMINE is an amine and alcohol. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. This chemical is hygroscopic.

Conditions to avoid

no data available

Incompatible materials

no data available

Hazardous decomposition products

Toxic oxides of nitrogen are produced during combustion .

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 - rat (male/female) - ca. 2 150 mg/kg bw. Remarks:Calculated?combined?for?males and?females.

Inhalation: LC0 - rat - 51.3 mg/m3 air.

Dermal: LD50 - rat (male/female) - > 2 000 mg/kg bw.

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

SECTION 12: Ecological information

Toxicity

Toxicity to fish: LC50 - Pimephales promelas - 640 mg/L - 96 h.

Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna - 22 mg/L - 48 h.

Toxicity to algae: EC50 - Desmodesmus subspicatus (previous name: Scenedesmus subspicatus) - 358 mg/L - 72 h.

Toxicity to microorganisms: EC50 - activated sludge, industrial - > 1 003 mg/L - 30 min. Remarks:Respiration rate.

Persistence and degradability

Aminoethyl ethanolamine was found to be easily biodegraded (greater than 30% theoretical BOD in two weeks of incubation) using the Japanese MITI protocol(1).

Bioaccumulative potential

Based upon an estimated log Kow of -1.39(1), the BCF for aminoethyl ethanolamine can be estimated to be 0.05 from a recommended regression-derived equation(2,SRC). This estimated BCF value indicates that bioconcentration in aquatic organisms is not important. Aminoethyl ethanolamine is miscible in water(3) which also indicates that bioconcentration is not important(SRC).

Mobility in soil

Based upon an estimated log Kow of -1.39(1), the Koc for aminoethyl ethanolamine can be estimated to be 4.2 from applicable regression-derived equation(2,SRC). This estimated Koc value indicates that aminoethyl ethanolamin is very highly mobile in

soil(3). Aminoethyl ethanolamine is miscible in water(4) which also indicates high soil mobility(SRC). However, aminoethyl ethanolamine has a pKa of 7.21(5) that indicates it can exist in both the protonated and neutral forms in environmental media; the Koc estimate above applies to neutral aminoethyl ethanolamine, but not to protonated aminoethyl ethanolamine(SRC). The mobility of protonated aminoethyl ethanolamine in soil can not be predicted without additional experimental data(SRC).

Other adverse effects

no data available

SECTION 13: Disposal considerations

Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

UN Number

ADR/RID: Not dangerous goods. (For reference only, please check.)
IMDG: Not dangerous goods. (For reference only, please check.)
IATA: Not dangerous goods. (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: Not dangerous goods. (For reference only, please check.)
IMDG: Not dangerous goods. (For reference only, please check.)
IATA: Not dangerous goods. (For reference only, please check.)

Transport hazard class(es)

ADR/RID: Not dangerous goods. (For reference only, please check.)
IMDG: Not dangerous goods. (For reference only, please check.)
IATA: Not dangerous goods. (For reference only, please check.)

Packing group, if applicable

ADR/RID: Not dangerous goods. (For reference only, please check.)
IMDG: Not dangerous goods. (For reference only, please check.)
IATA: Not dangerous goods. (For reference only, please check.)

Environmental hazards

ADR/RID: No
IMDG: No
IATA: No

Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

EC Inventory

Listed.

United States Toxic Substances Control Act (TSCA) Inventory

Listed.

China Catalog of Hazardous chemicals 2015

Not Listed.

New Zealand Inventory of Chemicals (NZIoC)

Listed.

(PICCS)

Listed.

Vietnam National Chemical Inventory

Listed.

IECSC)

Listed.

Korea Existing Chemicals List (KECL)

Listed.

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

References

IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home

HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm

IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg

Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

ECHA - European Chemicals Agency, website: https://echa.europa.eu/