Chemical Safety Data Sheet MSDS / SDS

Ethylamine 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: Ethylamine

CAS: 75-04-7

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

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SECTION 2: Hazards identification

Classification of the substance or mixture

Gases under pressure: Liquefied gas
Flammable gases, Category 1A, Flammable gas

Eye irritation, Category 2
Specific target organ toxicity – single exposure, Category 3

GHS label elements, including precautionary statements

Pictogram(s)

Signal word Danger

Hazard statement(s)

H220 Extremely flammable gas
H319 Causes serious eye irritation
H335 May cause respiratory irritation

Precautionary statement(s)

Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
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.
P271 Use only outdoors or in a well-ventilated area.

Response

P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 In case of leakage, eliminate all ignition sources.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P319 Get medical help if you feel unwell.

Storage

P410+P403 Protect from sunlight. Store in a well-ventilated place.
P403 Store in a well-ventilated place.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
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:	Ethylamine
Common names and synonyms:	Ethylamine
CAS number:	75-04-7
EC number:	200-834-7
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention.

Following skin contact

ON FROSTBITE: rinse with plenty of water, do NOT remove clothes. Refer for medical attention .

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth. Do NOT induce vomiting. Give one or two glasses of water to drink. Refer for medical attention .

Most important symptoms/effects, acute and delayed

Inhalation causes irritation of respiratory tract and lungs; pulmonary edema may result. Liquid causes severe irritation and burns of eyes and skin, and can permanently injure eyes after 15 seconds' contact. Ingestion causes severe burns of mouth and stomach; can be fatal. (USCG, 1999)

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

Immediate first aid: Remove patient from contact with material. Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. /Inorganic Bases/Alkaline Corrosives and Related Compounds/

SECTION 5: Firefighting measures

Suitable extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific hazards arising from the chemical

Special Hazards of Combustion Products: Irritating and toxic oxides of nitrogen may be formed. Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. Containers may explode when heated. (USCG, 1999)

Special protective actions for fire-fighters

Use water spray, dry powder, alcohol-resistant foam. In case of fire: keep drums, etc., cool by spraying with water.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Evacuate danger area! Consult an expert! Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Ventilation. Remove all ignition sources. Cautiously neutralize spilled liquid. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

Environmental precautions

Evacuate danger area! Consult an expert! Personal protection: complete protective clothing including self-contained breathing apparatus. Ventilation. Remove all ignition sources. NEVER direct water jet on liquid.

Methods and materials for containment and cleaning up

Accidental release measures: Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.; Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.; Methods and materials for containment and cleaning up: Clean up promptly by sweeping or vacuum.

SECTION 7: Handling and storage

Precautions for safe handling

NO open flames, NO sparks and NO smoking. Closed system, ventilation, explosion-proof electrical equipment and lighting. 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

Fireproof. Cool.Conditions for safe storage, including any incompatibilities: Keep container tightly closed in a dry and well-ventilated place. Storage class (TRGS 510): Gases

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

TLV: 5 ppm as TWA; 15 ppm as STEL; (skin).MAK: 9.4 mg/m3, 5 ppm; peak limitation category: I(2); pregnancy risk group: D.EU-OEL: 9.4 mg/m3, 5 ppm as TWA

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 face shield or eye protection in combination with breathing protection.

Skin protection

Protective clothing. Protective gloves.

Respiratory protection

Use ventilation, local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Ethylamine is a colorless liquid or a gas (boiling point 62°F) with an odor of ammonia. Flash point less than 0°F. Density of liquid 5.7 lb / gal. Corrosive to the skin and eyes. Vapors are heavier than air. Produces toxic oxides of nitrogen during combustion. Exposure of the closed container to intense heat may cause it to rupture violently and rocket.
Colour:	Colorless gas or water-white liquid (below 62 degrees F) [Shipped as a liquefied compressed gas]
Odour:	Ammonia odor
Melting point/freezing point:	-46°C(lit.)
Boiling point or initial boiling point and boiling range:	16.6°C(lit.)
Flammability:	Flammable Gas

Lower and upper explosion limit/flammability limit:	Lower flammable limit: 3.5% by volume; Upper flammable limit: 14% by volume
Flash point:	-31°C
Auto-ignition temperature:	721°F
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	Very soluble (NTP, 1992)
Partition coefficient n-octanol/water:	log Kow = -0.13
Vapour pressure:	874 mm Hg (20 °C)
Density and/or relative density:	0.81g/mLat 20°C
Relative vapour density:	1.56 (15 °C, vs air)
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

Decomposes on burning. This produces toxic gases including nitrogen oxides. The solution is a strong base. It reacts with acid and is corrosive. Reacts with strong oxidants and organic compounds. This generates fire and explosion hazard. Attacks many non-ferrous metals and plastic.
The substance is a strong base. It reacts violently with acid and is corrosive. Reacts violently with strong oxidants and organic compounds. This generates fire and explosion hazard. Attacks many non-ferrous metals and plastics.

Chemical stability

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions

A very dangerous fire hazard when exposed to heat or flame ... can react vigorously with oxidizing materials.The gas is heavier than air and may travel along the ground; distant ignition possible.,The vapour is heavier than air and may travel along the ground; distant ignition possible.Sensitive to heat. Reacts vigorously with oxidizing agents. Incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Incompatible with cellulose nitrate. Flammable gaseous hydrogen is generated in combination with strong reducing agents, such as hydrides. Also incompatible with oxidizing agents. A chemical base. Neutralizes acids to form salts plus water in an exothermic reaction Dissolves most paints, plastics and rubber (NTP, 1992).

Conditions to avoid

no data available

Incompatible materials

Incompatible materials: Strong oxidizing agents, nickel, copper, strong acids, zinc. Ethylamine, anhydrous is packaged in steel cylinders. Cool to 0 deg C before opening. Incompatible with silver, mercury and brass.

Hazardous decomposition products

When heated to decomposition it emits toxic fumes of nitroxides.

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 Rat oral 530 mg/kg bw

Inhalation: LC50 Rat inhalation 12.6 mg/L/4 hr

Dermal: no data available

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

The substance is severely irritating to the eyes, skin and respiratory tract.

STOT-repeated exposure

no data available

Aspiration hazard

A harmful contamination of the air will be reached very quickly on evaporation of this substance at 20°C.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: EC50; Species: Daphnia magna (Water flea); Concentration: 250 mg/L for 24 hr /Conditions of bioassay not specified in source examined

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

Persistence and degradability

AEROBIC: Ethylamine is expected to be degraded by biological sewage treatment with suitable acclimation(1). Activated sludge acclimated to aniline removed 34% of theoretical BOD in 130 hours; the initial ethylamine concentration was 500 mg/L(2). Activated and non-activated sludge cultures were observed to rapidly degrade ethylamine(3,4).

Bioaccumulative potential

An estimated BCF of 3.2 was calculated in fish for ethylamine(SRC), using a log Kow of -0.13(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

Mobility in soil

The Koc of ethylamine is estimated as 7(SRC), using a log Kow of -0.13(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that ethylamine is expected to have very high mobility in soil. Adsorption can be affected by the acidity of the soil; at a higher pH, cations have higher adsorption(SRC). The pKa of ethylamine is 10.87(4), indicating that this compound will exist almost entirely in the cation form in the environment and cations generally adsorb more strongly to soils containing organic carbon and clay than their neutral counterparts(5).

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: UN1036 (For reference only, please check.)
IMDG: UN1036 (For reference only, please check.)
IATA: UN1036 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: ETHYLAMINE (For reference only, please check.)
IMDG: ETHYLAMINE (For reference only, please check.)
IATA: ETHYLAMINE (For reference only, please check.)

Transport hazard class(es)

ADR/RID: 2.1 (For reference only, please check.)
IMDG: 2.1 (For reference only, please check.)
IATA: 2.1 (For reference only, please check.)

Packing group, if applicable

ADR/RID: (For reference only, please check.)
IMDG: (For reference only, please check.)
IATA: (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

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/

Other Information

See ICSC 0153 Ethylamine, gas in a cylinder. All physical properties are for 70% solution.

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. We as supplier shall not be held liable for any