SAFETY DATA SHEET (SDS) for Ethylamine

Item	Value
SDS No.	1411801212500003
Revision Date	2026-01-03
Product Name	Ethylamine
Version	First Edition

Section 1 Chemical and Company Identification

Item	Details
Chinese name	乙胺
English chemical name	Ethylamine
Supplier	Shanxi Lingze New Material Technology Co., Ltd.
Supplier address	Fine Chemical Industrial Park, Xiaoyi Economic Development Zone, Shanxi Province
Postal code	032300
E-mail	172164727@qq.com
Supplier service telephone	15135819969
Supplier emergency telephone	0358-7899858
Recommended and restricted uses	For dye synthesis, used as extractant, emulsifier, pharmaceutical raw material, laboratory reagent, etc.

Section 2 Hazards Identification

Emergency Overview: Extremely flammable gas and vapour; contains gas under pressure; may explode if heated.

GHS Hazard Category:

- Flammable Gas, Category 1
- Gases under Pressure-Liquefied gas
- Serious Eye Damage / Eye Irritation, Category 2
- Specific Target Organ Toxicity-Single Exposure, Category 3 (Respiratory Tract Irritation)
- Hazardous to the Aquatic Environment-Acute Hazard, Category 3.

Label Elements:

Pictograms: 

Signal Word: Danger

Hazard Statements:

Extremely flammable gas and vapour, contains gas under pressure; may explode if heated, causes serious eye irritation, may cause respiratory irritation, harmful to aquatic organisms.

Precautionary Statements:

Prevention*

Keep away from heat, sparks, open flames, hot surfaces. No smoking. Keep container tightly closed. Ground and bond containers and receiving equipment (Applicable for electrostatic-sensitive materials during refilling). Use explosion-proof electrical, ventilation and lighting equipment. Only use non-sparking tools. Take measures against static electricity. Wear protective gloves, eye protection and face shield. Avoid contact with eyes and skin. Wash thoroughly after operation. Do not discharge to environment.

Response

- In case of fire: Use water spray, alcohol-resistant foam, dry powder, carbon dioxide for fire-fighting.
- If on skin (or hair): Immediately remove all contaminated clothing, rinse skin with water or shower.
- If in eyes: Rinse eyes carefully with water for several minutes. Remove contact lenses if easy to do so, continue rinsing.
- If eye irritation persists: Seek medical attention.

Safe Storage

- Keep cool. Protect from sunlight. Store in well-ventilated place.

Disposal

- Dispose of this product, residues and containers in accordance with national and local laws and regulations.

Physical-chemical Hazards: Extremely flammable, its gas may form explosive mixture with air.

Health Hazards: Exposure to ethylamine vapour may cause eye irritation, corneal injury and upper respiratory tract irritation. Liquid splashing into eyes can result in severe burns; skin contact may result in burns.

Environmental Hazards: Harmful to aquatic organisms.

Other Hazards: No data available.

Section 3 Composition / Information on Ingredients

☑ Substance □ Mixture

Hazardous Component	Concentration Range	CAS No.
Ethylamine	99.5 %-99.98%	75-04-7

Section 4 First-aid Measures

First-aid:

- **Skin Contact:** Immediately remove contaminated clothing, thoroughly flush with large amount of running water for at least 15 minutes. Seek medical attention.
- **Eye Contact:** Immediately separate eyelids, thoroughly irrigate with running water or normal saline for at least 5-10 minutes. Seek medical attention.
- **Inhalation:** Promptly remove from site to fresh air. Keep respiratory tract unobstructed. Give oxygen if breathing difficulty occurs. If breathing or heartbeat stops, immediately perform cardiopulmonary resuscitation. Seek medical attention.
- **Ingestion:** Rinse mouth with water. Do NOT induce vomiting. Give milk or egg-white for drinking, seek medical attention.

Advice for rescuers: Wear personal protective equipment as required.

Special hints to physicians: Symptomatic treatment.

Section 5 Fire-fighting Measures

Extinguishing Media: Water spray, alcohol-resistant foam, dry powder, carbon dioxide.

Special Hazards: Violent reaction with oxidants. Vapour heavier than air, spreads along ground and accumulates in low-lying areas; flash-back may occur upon ignition. Burning produces hazardous carbon monoxide, nitrogen oxides.

Fire-fighting Notes and Measures: Cut off gas supply. If gas supply cannot be cut off, do not extinguish flame at leak point. Fire-fighters must wear self-contained breathing apparatus and full fire-proof and anti-chemical suit, fight fire at upwind position. Move containers to open space from fire scene if possible. Cool containers by water spray until fire is completely extinguished.

Section 6 Accidental Release Measures

Protective measures, protective equipment and emergency procedures for workers:
Eliminate all ignition sources. Set warning zone according to gas diffusion area; evacuate irrelevant personnel to safe zone at cross-wind / upwind direction. Emergency response personnel shall wear positive-pressure self-contained breathing apparatus, anti-static anti-corrosion chemical protective suit. For liquefied gas leakage, take precautions against frostbite. All operating equipment shall be grounded. Do not touch or cross leaked material. Cut off leakage source as far as possible. If feasible, invert container to release gas instead of liquid. Spray water mist to suppress vapour or divert vapour cloud.

Environmental precautions: Prevent the released material from entering water bodies, sewers, basements or confined spaces.

Methods and materials for containment and cleaning up of released chemicals:
Do NOT direct water jet onto leak or leak source. For liquid spill: build dike or dig pit for containment. Absorb liquid by sand, inert substance or vermiculite. Isolate leak area and ventilate until gas dissipates completely.

Preventive measures for secondary hazard: No data available.

Section 7 Handling and Storage

Handling Precautions: Closed operation with enhanced ventilation. Operators shall receive special training and strictly comply with operating procedures. It is recommended for operators to wear half-face filtering respirator, chemical safety goggles, rubber-coated anti-poison work clothes and rubber gloves. Keep away from fire source and heat source; smoking is prohibited in workplace. Use explosion-proof ventilation system and equipment. Prevent gas or vapour leakage into workplace air. Avoid contact with oxidants and acids. Ground and bond cylinders and containers during transfer to prevent static accumulation. Handle cylinders with care to prevent damage of cylinders and accessories. Equip corresponding type and quantity of fire-fighting equipment and leakage emergency-treatment device.

Storage Precautions: Store in dedicated warehouse for flammable gases, cool and well-ventilated. Keep away from fire source and heat source. Warehouse temperature shall not exceed 30℃. Keep containers sealed. Store separately from oxidants and acids; mixed storage is strictly forbidden. Adopt explosion-proof lighting and ventilation facilities. Do not use machinery and tools generating sparks. Spill emergency-treatment equipment shall be available in storage area.

Section 8 Exposure Controls / Personal Protection

Occupational Exposure Limit:

- China: PC-TWA:9 mg/m³[skin]; PC-STEL:18 mg/m³[skin].
- US (ACGIH): TLV-TWA:5ppm[skin]; TLV-STEL:15ppm[skin].

Biological Limit Value: Not established.

Monitoring Methods: Determination method for toxic substances in air: solvent desorption-gas chromatography. Biological monitoring test method: Not established.

Engineering Controls: Closed-process production, strengthen ventilation. Provide safety shower and eyewash device.

Personal Protective Equipment:

- **Respiratory Protection:** Wear half-face filtering respirator when airborne concentration exceeds limit. Wear self-contained breathing apparatus in emergency rescue or evacuation.
- **Eye Protection:** Wear chemical safety goggles.
- **Skin and Body Protection:** Wear isolating anti-poison protective clothing.
- **Hand Protection:** Wear rubber gloves.
- **Other Protection:** No data available.

Section 9 Physical and Chemical Properties

Property	Value
Appearance and Properties	Colourless liquid or gas with strong ammonia-like odour

Property	Value
pH value	Not applicable
Melting point (℃)	-81
Boiling point (℃)	16.6
Flash point (℃)	-17(CC), <-6.7(OC)
Upper Explosion Limit (%)	14.0
Lower Explosion Limit (%)	3.5
Saturation Vapour Pressure(kPa)	121(20℃)
Relative Vapour Density(air=1)	1.56
Relative Density(water=1)	0.7
Density(g/L)	700(20℃)
Octanol-water partition coefficient	-0.13
Ignition temperature(℃)	385
Auto-ignition temperature(℃)	385
Critical temperature(℃)	182.9
Critical pressure(MPa)	5.62
Heat of combustion(kj/mol)	-1713.3
Decomposition temperature(℃)	No data
Viscosity(mPa·s)	No data
Flammability	Flammable
Solubility	Soluble in water, ethanol, ether and other organic solvents.

Section 10 Stability and Reactivity

Stability: Stable.

Incompatible substances: Strong oxidants, strong acids.

Conditions to avoid: No data available.

Hazardous Reactions: Risk of fire and explosion upon contact with strong oxidants and other incompatible substances.

Hazardous Decomposition Products: Ammonia.

Section 11 Toxicological Information

Acute Toxicity:

- LD50: 400mg/kg (rat oral); 390mg/kg (rabbit dermal).
- LCLo: 3000ppm (rat inhalation,4h).

Skin irritation / corrosion: Rabbit dermal test: 500mg(24h), mild irritation.

Eye irritation / corrosion: Rabbit eye test:250μg(24h) or 5mg, severe irritation.

Respiratory or skin sensitization: No data.

Germ-cell mutagenicity: No data.

Carcinogenicity: No data.

Reproductive Toxicity: No data.

Specific Target Organ Toxicity-Single exposure: No data.

Specific Target Organ Toxicity-Repeated exposure: Rabbit inhalation 184mg/m³,7h each time,5 times per week for 6 weeks; massive pulmonary haemorrhage, peribronchitis and varying degrees of renal-parenchyma degeneration observed. Epithelial erosion and corneal oedema of rabbit eyes were observed starting from the 2nd week of exposure.

Aspiration hazard: No data.

Section 12 Ecological Information

Ecotoxicity:

EC50:40mg/L(48h)(Daphnia magna).

Persistence and degradability:

- **Biodegradability:** MITI-I test, initial concentration 100ppm, sludge concentration 30ppm, degradation rate 59%-90% after 2 weeks.
- **Abiotic degradation:** In air, when hydroxyl radical concentration is 5.00 ×10⁵ radicals/cm³, degradation half-life is 14h (theoretical value).

Bioaccumulation: Weak bioaccumulation potential predicted by Kow value.

Mobility in soil: High migration potential predicted by Koc value.

Other adverse effects: No data available.

Section 13 Disposal Considerations

Disposal Methods:

- Waste chemicals: Dispose by controlled incineration. Remove nitrogen-oxide from incinerator exhaust gas via scrubber.
- Contaminated packages: Return containers to manufacturer or dispose according to national and local laws and regulations.

Disposal Notes: Consult relevant national and local regulations before disposal. Return empty containers to manufacturer.

Section 14 Transport Information

UN Dangerous Goods Number(UN No.): 1036

UN Transport Proper Shipping Name: Ethylamine

UN Hazard Classification: 3+8

Packing Group: Group II

Packing Mark: 

Packing Method: Steel gas cylinders; ground-glass-stopper or threaded glass bottle inside ordinary wooden case; ampoule in ordinary wooden case.

Marine Pollutant (Yes / No): No

Transport Precautions: Fit protective cap for cylinder valve during cylinder transportation. Cylinders shall generally be laid horizontally, and valve nozzles shall point to the same direction without crossing-placement; stacking height shall not exceed vehicle guard rail, fix with wedge blocks to prevent rolling. Transport vehicle shall be equipped with corresponding type and quantity of fire-fighting equipment and leakage emergency-treatment device. Vehicle exhaust pipe must install flame arrester. Machinery and tools generating sparks shall not be used for loading and unloading. Strictly forbid mixed loading and transportation together with oxidants, acids, food chemicals. Better transport in morning and evening in summer to avoid sunshine exposure. Keep away from fire source, heat source during stop-over. For road transport: drive according to specified route, do not stay in residential and densely-populated area. For railway transport: gravity shunting is forbidden.

Section15 Regulatory Information

Regulatory Information: The following laws, regulations and standards stipulate the safe use, storage, transportation, loading-unloading, classification and labelling for chemicals.

Chemical Name	A	B	C	D	E
Ethylamine	Listed	Not listed	Not listed	Not listed	Not listed

- **[A]** *Catalogue of Hazardous Chemicals (2022 Adjusted Version)*, Announcement No. 5 of 2015 of the State Administration of Work Safety
- **[B]** *Catalogue of Explosive-Precursor Hazardous Chemicals (2017 Version)*, Order No. 154 of the Ministry of Public Security
- **[C]** *Catalogue of Key Monitored Hazardous Chemicals*, SAWS General Administration III [2011] No. 95 and SAWS General Administration III [2013] No. 12
- **[D]** *Classification and Catalogue of Precursor Chemicals*, Decree No. 445 of the State Council

- **[E]** *Catalogue of Highly Toxic Substances (2003 Version)*, Wei Fa Jian [2003] No. 142

Section16 Other Information

Latest revision date: 3 January 2026

Revision note: This SDS is compiled in accordance with GB/T16483-2008 "Safety Data Sheet for Chemicals-General Rules for Content and Format". GHS classification in this SDS is self-classified by enterprise according to GB 30000 series standards.

Explanation of abbreviations

- **MAC:** The concentration of a toxic chemical substance in the workplace that shall not be exceeded at any time during a working day.
- **PC-TWA:** The permissible exposure concentration averaged over an 8-hour working day and a 40-hour working week, with time as the weighting factor.
- **PC-STEL:** The concentration permitted for short-term (15 min) exposure, on the premise that the PC-TWA is complied with.
- **TLV-C:** A ceiling limit that shall not be exceeded even instantaneously; specified specifically for certain substances such as irritant gases or substances whose effects are predominantly acute.
- **TLV-TWA:** The time-weighted average concentration for an 8-hour working day or a 40-hour working week, at which repeated exposure over a lifetime working period is not expected to produce adverse effects in nearly all workers.
- **TLV-STEL:** The maximum concentration to which a worker is permitted continuous exposure for 15 min, provided the TLV-TWA is complied with. This concentration shall not be exceeded more than 4 times per working day, with at least 60 min between two exposures. It is a supplement to the TLV-TWA.
- **IARC:** International Agency for Research on Cancer
- **RTECS:** Registry of Toxic Effects of Chemical Substances of the US National Institute for Occupational Safety and Health
- **HSDB:** Hazardous Substances Data Bank of the US National Library of Medicine
- **ACGIH:** American Conference of Governmental Industrial Hygienists

Disclaimer

The format of this Safety Data Sheet complies with the requirements of GB/T 16483 and GB/T 17519 of China. The data are derived from authoritative international databases, and other information is based on the knowledge currently available to the company. We endeavour to ensure the accuracy of all information herein; however, owing to the diversity of information sources and the limits of the company's knowledge, this document is provided for the user's reference only. Users of this Safety Data Sheet shall judge the reasonableness of the relevant information according to the purpose of use. We accept no liability for any damage arising from the handling, storage, use or disposal of this product.