Material Safety Data Sheet
ETHYLAMINE Solution ~70% in water-puriss for synthesis

Section 1 - Chemical Product and Company Identification

SPECTROCHEM PVT. LTD.

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An ISO 9001: 2015 certified company.

MSDS Name: ETHYLAMINE Solution ~70% in water
Synonyms: --

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
75-04-7	ETHYLAMINE Solution ~70% in water	About 70.0%	200-834-7

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Appearance: A clear & colourless solution.
3.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
Flammable liquids (Category 2), H225
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 4), H332
Acute toxicity, Dermal (Category 3), H311
Skin corrosion (Category 1), H314
Serious eye damage (Category 1), H318
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
For the full text of the H-Statements mentioned in this Section, see Section 16.
3.2 Label elements
Labelling according Regulation (EC) No 1272/2008
Pictogram

Signal Word Danger
Hazard statement(s)
H225 Highly flammable liquid and vapor.
H302 + H332 Harmful if swallowed or if inhaled.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.
Precautionary statement(s)
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements none

Reduced Labeling (<= 125 ml)

Pictogram

Signal Word Danger

Hazard statement(s)
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage. Precautionary statement(s)
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements none

3.3 Other hazards

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.

Section 4 - First Aid Measures

4.1 Description of first-aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data availableSection 5 - Fire Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media

Water Foam Carbon dioxide (CO2) Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Combustible.
Fire may cause evolution of: nitrogen oxides Pay attention to flashback. Vapors are heavier than air and may spread along floors. Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage

Recommended storage temperature Store at ambient temperature.

Storage class: Flammable liquids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

Section 8 - Exposure Controls, Personal Protection

8.1 Control parameters

Ingredients with workplace control parameters

8.2 Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection

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). Full contact Material: butyl-rubber Minimum layer thickness: 0,7 mm Break through time: 480 min Material tested:Butoject® (KCL 898) 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). Splash contact Material: Latex gloves Minimum layer thickness: 0,6 mm Break through time: 30 min Material tested:Lapren® (KCL 706 / Aldrich Z677558, Size M)
Body Protection Flame retardant antistatic protective clothing.
Respiratory protection
Recommended Filter type: Filter type K The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.
Control of environmental exposure
Do not let product enter drains. Risk of explosion.

Section 9 - Physical and Chemical Properties

9.1 Information on basic physical and chemical properties
a) Physical state liquid
b) Color colorless
c) Odor stinging
d) Melting point/freezing point Melting point: No data available
e) Initial boiling point and boiling range No data available
f) Flammability (solid, gas) No data available
g) Upper/lower flammability or explosive limits
Upper explosion limit: 12,8 %(V)
Lower explosion limit: 3,0 %(V)
h) Flash point -26 °C - DIN 51755 Part 1
i) Autoignition temperature No data available
j) Decomposition temperature No data available
k) pH > 14 at 20 °C
l) Viscosity Viscosity, kinematic: No data available
Viscosity, dynamic: No data available
m) Water solubility at 20 °C soluble
n) Partition coefficient: n-octanol/water log Pow: -0,27 at 23 °C - Bioaccumulation is not expected.
o) Vapor pressure 460 hPa at 20 °C
p) Density 0.800-0.810 at 20°C (in gm/ml)
Relative density No data available
q) Relative vapor density No data available
r) Particle characteristics No data available
s) Explosive properties Not classified as explosive.
t) Oxidizing properties none
9.2 Other safety information
No data available
Molecular Formula C_2H_7N
Molecular Weight 45.08

Section 10 - Stability and Reactivity

10.1 Reactivity
Vapors may form explosive mixture with air.
10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature) .
10.3 Possibility of hazardous reactions
Violent reactions possible with: Acid anhydrides Strong oxidizing agents Alcohols Aldehydes carbon dioxide Acids Risk of ignition or formation of inflammable gases or vapours with: sulphur dioxide hydrogen sulphide Caution! In contact with nitrites, nitrates, nitrous acid possible liberation of nitrosamines!
10.4 Conditions to avoid
Warming.
10.5 Incompatible materials
Aluminum, Copper, Zinc, Tin
10.6 Hazardous decomposition products
In the event of fire: see section 5

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Mixture

Acute toxicity

LD50 Oral - Rat - 400 mg/kg Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach. Acute toxicity estimate Inhalation - 4 h - 15,71 mg/l - vapor(Calculation method) Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract LD50 Dermal - Rabbit - 265 mg/kg

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

Mixture causes serious eye damage. Risk of blindness!

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Mixture may cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

Endocrine disrupting properties

Product:

Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. Other dangerous properties cannot be excluded. Handle in accordance with good industrial hygiene and safety practice.

Components

Ethylamine

Acute toxicity

Oral: No data available LC50 Inhalation - Rat - male and female - 4 h - 8,1 mg/l – gas (OECD Test Guideline 403)

Dermal: No data available

Skin corrosion/irritation

Skin – Rabbit Result: Corrosive Remarks: (ECHA)

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

Test Type: Ames test

Test system: S. typhimurium

Result: negative

Remarks: (National Toxicology Program)

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

Aspiration hazard

No data available

Section 12 - Ecological Information

12.1 Toxicity
Mixture
Toxicity to fish LC50 - Leuciscus idus (Golden orfe) - 240 mg/l - 96 h Remarks: (External MSDS)
Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 94 mg/l - 24 h Remarks: (External MSDS) Toxicity to bacteria EC0 - Pseudomonas putida - 5,3 mg/l - 16 h Remarks: (External MSDS)
12.2 Persistence and degradability
Biodegradability Result: 60 - 70 % - Readily biodegradable. (OECD Test Guideline 301F)
Biochemical Oxygen Demand (BOD) 1.300 mg/g Remarks: (External MSDS)
12.3 Bioaccumulative potential
No data available
12.4 Mobility in soil
No data available
12.5 Results of 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.
12.6 Endocrine disrupting properties
Product:
Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
12.7 Other adverse effects
Additional ecological information Harmful effect due to pH shift. Discharge into the environment must be avoided.
Components
Ethylamine
Toxicity to fish static test LC50 - Leuciscus idus (Golden orfe) - > 500 mg/l - 96 h (DIN 38412 part 15)
Toxicity to daphnia and other aquatic invertebrates semi-static test LC50 - Ceriodaphnia dubia (water flea) - 2,9 mg/l - 48 h (US-EPA) Toxicity to bacteria static test EC20 - activated sludge - 240 mg/l - 30 min (ISO 8192)

Section 13 - Disposal Considerations

13.1 Waste treatment methods
Product
See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

Section 14 - Transport Information

14.1 UN number
ADR/RID: 2270 IMDG: 2270 IATA: 2270
14.2 UN proper shipping name
ADR/RID: ETHYLAMINE, AQUEOUS SOLUTION
IMDG: ETHYLAMINE, AQUEOUS SOLUTION
IATA: Ethylamine, aqueous solution
14.3 Transport hazard class(es)
ADR/RID: 3 (8) IMDG: 3 (8) IATA: 3 (8)
14.4 Packaging group
ADR/RID: II IMDG: II IATA: II
14.5 Environmental hazards
ADR/RID: no IMDG Marine pollutant: no IATA: no
14.6 Special precautions for user
No data available

Section 15 - Regulatory Information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

National legislation

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

: Liquefied extremely flammable gases (including LPG) and natural gas

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

Section 16 - Additional Information

MSDS Preparation Date: 11/10/2022
Revision No.: 02 Date: 06/11/2024

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