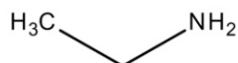


MATERIAL SAFETY DATA SHEET (MSDS)

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

1.1. Product identifier

Product form	: Substance
	:
EC Index-No.	: 612-002-00-4
EC-No.	: 200-834-7
CAS-No.	: 75-04-7
Product code	: 03718
Formula	: C ₂ H ₇ N
Chemical structure	:



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

1.2.1. Relevant identified uses

Industrial/Professional use spec	: Industrial For professional use only
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1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

CHEMIECALL
Jl. Diklat Pemda, Dukuh Pinang No. 24 RT.001/003
Kel. Bojong Nangka Kec. Kelapa Dua Tangerang 15821
Contact: +62(21) 54210228
info@chemiecall.com www.chemiecall.com

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, Category 2	H225
Skin corrosion/irritation, Category 1A	H314
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335

ETHYLAMINE SOLUTION FOR SYNTHESIS

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Full text of H statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F+; Xi; R11-35-37

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS02

GHS05

GHS07

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H225 - Highly flammable liquid and vapour.
H314 - Causes severe skin burns and eye damage.
H335 - May cause respiratory irritation.

Precautionary statements (CLP) :

P210 - Keep away from open flames, sparks. No smoking.
P261 - Avoid breathing dust, fume, gas, spray, vapours.
P280 - Wear protective gloves, protective clothing, face protection, eye protection.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER/doctor

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Name : ETHYLAMINE SOLUTION FOR SYNTHESIS
CAS-No. : 75-04-7
EC-No. : 200-834-7
EC Index-No. : 612-002-00-4

Full text of R- and H-statements: see section 16

3.2. Mixtures

Not applicable

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SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. Call a POISON CENTER/doctor if you feel unwell.
First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing. Immediately call a POISON CENTER/doctor.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects	: Causes severe skin burns and eye damage.
Symptoms/effects after inhalation	: May cause respiratory irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Highly flammable liquid and vapour.
Explosion hazard	: May form flammable/explosive vapour-air mixture.

5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.
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6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel.
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6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Ventilate area.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.
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6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

ETHYLAMINE SOLUTION FOR SYNTHESIS

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	: Handle empty containers with care because residual vapours are flammable.
Precautions for safe handling	: Provide good ventilation in process area to prevent formation of vapour. Avoid contact with skin and eyes. Use only non-sparking tools. Do not breathe vapours. Avoid contact during pregnancy/while nursing. Keep away from sources of ignition - No smoking. Use only outdoors or in a well-ventilated area.
Hygiene measures	: Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Comply with applicable regulations.
Storage conditions	: Keep in fireproof place. Keep container tightly closed.
Incompatible materials	: Sources of ignition. Direct sunlight. Heat sources.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Personal protective equipment	: Avoid all unnecessary exposure.
Hand protection	: Protective gloves
Eye protection	: Chemical goggles or face shield
Skin and body protection	: Wear suitable protective clothing
Respiratory protection	: [In case of inadequate ventilation] wear respiratory protection.
Other information	: Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Molecular mass	: 45.09 g/mol
Colour	: colorless to light yellow.
Odour	: ammonia like odour.
Odour threshold	: No data available
pH	: > 14 at 20 °C
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: -74 °C

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Freezing point	: No data available
Boiling point	: 38 °C
Flash point	: -26 °C
Auto-ignition temperature	: 375 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable Highly flammable liquid and vapour.
Vapour pressure	: 50 mm Hg at 20° C
Relative vapour density at 20 °C	: 1.56
Relative density	: 0.796
Density	: 0.8 g/cm ³
Solubility	: Water: Soluble
Log Pow	: -0.27
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 0.03 - 0.128 vol %

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Sparks. Heat. Open flame.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide. May release flammable gases.


SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

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Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: > 14 at 20 °C
Serious eye damage/irritation	: Serious eye damage, category 1, implicit pH: > 14 at 20 °C
Respiratory or skin sensitisation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Germ cell mutagenicity	: Not classified Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Reproductive toxicity	: 
Additional information	: Based on available data, the classification criteria are not met
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

ETHYLAMINE SOLUTION FOR SYNTHESIS (75-04-7)

Persistence and degradability	Not established.
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12.3. Bioaccumulative potential

ETHYLAMINE SOLUTION FOR SYNTHESIS (75-04-7)

Log Pow	-0.27
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Bioaccumulative potential	Not established.
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12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

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12.6. Other adverse effects

Additional information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Additional information : Handle empty containers with care because residual vapours are flammable.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR) : 2270
UN-No. (IMDG) : 2270
UN-No. (IATA) : 2270
UN-No. (ADN) : 2270
UN-No. (RID) : 2270

14.2. UN proper shipping name

Proper Shipping Name (ADR) : ETHYLAMINE, AQUEOUS SOLUTION
Proper Shipping Name (IMDG) : ETHYLAMINE, AQUEOUS SOLUTION
Proper Shipping Name (IATA) : Ethylamine, aqueous solution
Proper Shipping Name (ADN) : ETHYLAMINE, AQUEOUS SOLUTION
Proper Shipping Name (RID) : ETHYLAMINE, AQUEOUS SOLUTION
Transport document description (ADR) : UN 2270 ETHYLAMINE, AQUEOUS SOLUTION, 3 (8), II, (D/E)
Transport document description (IMDG) : UN 2270 ETHYLAMINE, AQUEOUS SOLUTION, 3 (8), II
Transport document description (IATA) : UN 2270 Ethylamine, aqueous solution, 3 (8), II
Transport document description (ADN) : UN 2270 ETHYLAMINE, AQUEOUS SOLUTION, 3 (8), II
Transport document description (RID) : UN 2270 ETHYLAMINE, AQUEOUS SOLUTION, 3 (8), II

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 3 (8)

Danger labels (ADR) : 3, 8



IMDG

Transport hazard class(es) (IMDG) : 3 (8)

Danger labels (IMDG) : 3, 8



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IATA

Transport hazard class(es) (IATA) : 3 (8)

Hazard labels (IATA) : 3, 8



ADN

Transport hazard class(es) (ADN) : 3 (8)

Danger labels (ADN) : 3, 8



RID

Transport hazard class(es) (RID) : 3 (8)

Danger labels (RID) : 3, 8



14.4. Packing group

Packing group (ADR) : II

Packing group (IMDG) : II

Packing group (IATA) : II

Packing group (ADN) : II

Packing group (RID) : II

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : FC

Limited quantities (ADR) : 1I

Excepted quantities (ADR) : E2

Packing instructions (ADR) : P001, IBC02

Mixed packing provisions (ADR) : MP19

Portable tank and bulk container instructions (ADR) : T7

Portable tank and bulk container special provisions (ADR) : TP1

Tank code (ADR) : L4BH

Vehicle for tank carriage : FL

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Transport category (ADR) : 2
Special provisions for carriage - Operation (ADR) : S2, S20
Hazard identification number (Kemler No.) : 338
Orange plates :



Tunnel restriction code (ADR) : D/E
EAC code : •2PE
APP code : A(fl)

- Transport by sea

Limited quantities (IMDG) : 1 L
Excepted quantities (IMDG) : E2
Packing instructions (IMDG) : P001
IBC packing instructions (IMDG) : IBC02
Tank instructions (IMDG) : T7
Tank special provisions (IMDG) : TP1
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-C
Stowage category (IMDG) : B
Stowage and handling (IMDG) : SW2
Segregation (IMDG) : SG35
MFAG-No : 132

- Air transport

PCA Excepted quantities (IATA) : E2
PCA Limited quantities (IATA) : Y340
PCA limited quantity max net quantity (IATA) : 0.5L
PCA packing instructions (IATA) : 352
PCA max net quantity (IATA) : 1L
CAO packing instructions (IATA) : 363
CAO max net quantity (IATA) : 5L
ERG code (IATA) : 3CH

- Inland waterway transport

Classification code (ADN) : FC
Limited quantities (ADN) : 1 L
Excepted quantities (ADN) : E2
Equipment required (ADN) : PP, EP, EX, A
Ventilation (ADN) : VE01
Number of blue cones/lights (ADN) : 1

- Rail transport

Classification code (RID) : FC
Limited quantities (RID) : 1L
Excepted quantities (RID) : E2
Packing instructions (RID) : P001, IBC02
Mixed packing provisions (RID) : MP19
Portable tank and bulk container instructions (RID) : T7
Portable tank and bulk container special provisions (RID) : TP1
Tank codes for RID tanks (RID) : L4BH

ETHYLAMINE SOLUTION FOR SYNTHESIS

Safety Data Sheet

Transport category (RID)	: 2
Colis express (express parcels) (RID)	: CE7
Hazard identification number (RID)	: 338

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

ETHYLAMINE SOLUTION FOR SYNTHESIS is not on the REACH Candidate List

ETHYLAMINE SOLUTION FOR SYNTHESIS is not on the REACH Annex XIV List

15.1.2. National regulations

Germany

Reference to AwSV : Water hazard class (WGK) 1, low hazard to water (Classification according to AwSV; ID No. 97)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark

Classification remarks : Emergency management guidelines for the storage of flammable liquids must be followed

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

ETHYLAMINE SOLUTION FOR SYNTHESIS

Safety Data Sheet

Data sources	: REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
Other information	: None.

Full text of R-, H- and EUH-statements:

Flam. Liq. 2	Flammable liquids, Category 2
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H225	Highly flammable liquid and vapour.
H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.
F+	Extremely flammable

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product