

# Safety data sheet

according to 1907/2006/EC, Article 31

Revision: 28.10.2010

Printing date 02.07.2013

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Trade name

**Ethylamine, 2M in THF**

Stock number:

H32306

CAS Number:

75-04-7

EC number:

200-843-7

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

Identified use:

SU24 Scientific research and development

**1.3 Details of the supplier of the safety data sheet**

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG  
 A Johnson Matthey Company  
 Zeppelinstr. 7b  
 76185 Karlsruhe / Germany  
 Tel: +49 (0) 721 84007 280  
 Fax: +49 (0) 721 84007 300  
 Email: tech@alfa.com  
 www.alfa.com

Informing department:

Product safety Tel + +049 (0) 7275 988687-0

1.4 Emergency telephone number:

Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)

Poison Information Center Mainz

www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 1 H224 Extremely flammable liquid and vapour.



GHS06 skull and crossbones

Acute Tox. 3 H311 Toxic in contact with skin.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xi; Irritant

R36/37: Irritating to eyes and respiratory system.



F+; Extremely flammable

R12: Extremely flammable.

R19: May form explosive peroxides.

Information concerning particular hazards for human and environment:

Not applicable

Other hazards that do not result in classification

No information known.

**2.2 Label elements**

Labelling according to Regulation (EC) No

1272/2008

Hazard pictograms

Signal word

Hazard statements

The substance is classified and labelled according to the CLP regulation.

GHS02, GHS06

Danger

H224 Extremely flammable liquid and vapour.

H302 Harmful if swallowed.

H311 Toxic in contact with skin.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

P210

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin

with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

Remove/Take off immediately all contaminated clothing.

P361

P405

Store locked up.

P501

Dispose of contents/container in accordance with local/regional/national/international

regulations.

EUH019 May form explosive peroxides.

Additional information:

**2.3 Other hazards**

Results of PBT and vPvB assessment

PBT:

Not applicable.

vPvB:

Not applicable.

**SECTION 3: Composition/information on ingredients****3.1 Substances**

CAS# Designation:

75-04-7 Ethylamine, 2M in THF

Identification number(s):

200-843-7

EC number:

200-843-7

**SECTION 4: First aid measures****4.1 Description of first aid measures**

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

Seek immediate medical advice.

After skin contact

Instantly wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing

Seek medical treatment.

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

No further relevant information available.

(Contd. on page 2)  
DE/E

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Trade name **Ethylamine, 2M in THF****4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

(Contd. of page 1)

**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing agents**CO<sub>2</sub>, sand, extinguishing powder. Do not use water.**5.2 Special hazards arising from the substance or mixture**

If this product is involved in a fire, the following can be released:  
Carbon monoxide and carbon dioxide  
Nitrogen oxides (NO<sub>x</sub>)  
Possibly Hydrogen cyanide (HCN)

**5.3 Advice for firefighters****Protective equipment:**

Wear self-contained breathing apparatus.  
Wear full protective suit.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation.  
Keep away from ignition sources

**6.2 Environmental precautions:**

Do not allow material to be released to the environment without proper governmental permits.  
Do not allow product to reach sewage system or water bodies.  
Do not allow to enter the ground/soil.

**6.3 Methods and material for containment and cleaning up:**

Keep away from ignition sources.  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Ensure adequate ventilation.

**Prevention of secondary hazards:****6.4 Reference to other sections**

Keep away from ignition sources.  
See Section 7 for information on safe handling  
See section 8 for information on personal protection equipment.  
See Section 13 for information on disposal.

**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

Keep containers tightly sealed.  
Store in cool, dry place in tightly closed containers.  
Keep away from heat and direct sunlight.  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle container with care.

**Information about protection against explosions and fires:**

Protect against electrostatic charges.  
Fumes can combine with air to form an explosive mixture.  
Do not distill to dryness.  
Explosive peroxides may form, handle container cautiously.

**7.2 Conditions for safe storage, including any incompatibilities**

**Storage**  
**Requirements to be met by storerooms and containers:**  
**Information about storage in one common storage facility:**  
**Further information about storage conditions:**

Store in cool location.

Store away from oxidizing agents.

Store in cool, dry conditions in well sealed containers.  
Protect from heat and direct sunlight.  
Avoid contact with air / oxygen (formation of peroxide).  
Check container pressure periodically to prevent explosive peroxides.

**7.3 Specific end use(s)**

No further relevant information available.

**SECTION 8: Exposure controls/personal protection****Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

**Components with critical values that require monitoring at the workplace:**

Ethylamine

ppm

ACGIH TLV 5; 15-STEL (skin)

Austria MAK 10

Belgium TWA 10

Denmark TWA 10 (skin)

Finland TWA 10; 20-STEL (skin)

France VME 10, 15-VLE

Germany MAK 10 (skin)

Japan OEL 10

Korea TLV 5; 15-STEL (skin)

Netherlands MAC-TGG 9 mg/m<sup>3</sup>

Norway TWA 10

Poland TWA 5 mg/m<sup>3</sup>; 15 mg/m<sup>3</sup>-STEL

Russia TWA 10

Sweden NGV 10; 15-KTV (skin)

Switzerland MAK-W 10; 20-KZG-W

United Kingdom TWA 2; 6-STEL

USA PEL 10

**8.1 Control parameters****Components with critical values that require monitoring at the workplace:**

Tetrahydrofuran

ppm

ACGIH TLV 200; 250-STEL

Austria MAK 200

Belgium TWA 200; 250-STEL

Denmark TWA 100

Finland TWA 100; 150-STEL

France VME 200

Germany MAK 200

Hungary TWA 200; 400-STEL

Japan OEL 200

Korea TLV 200; 250-STEL

(Contd. on page 3)  
DE/E

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(Contd. of page 2)

Netherlands MAC-TGG 100 (skin)  
Norway TWA 50  
Poland TWA 600 mg/m<sup>3</sup>; 750 mg/m<sup>3</sup>-STEL  
Russia TWA 200; 100-STEL  
Sweden NGV 50; 80-KTV  
Switzerland MAK-W 200; 1000-STEL  
United Kingdom TWA 100; 200-STEL (skin)  
USA PEL 200

**75-04-7 Ethylamine, 2M in THF (100,0%)**

AGW (Germany) 9,4 mg/m<sup>3</sup>, 5 ppm  
=2=(!);DFG, EU  
PEL (USA) 18 mg/m<sup>3</sup>, 10 ppm  
REL (USA) 18 mg/m<sup>3</sup>, 10 ppm  
TLV (USA) Short-term value: 27,6 mg/m<sup>3</sup>, 15 ppm  
Long-term value: 9,2 mg/m<sup>3</sup>, 5 ppm  
Skin

Additional information: No data

**8.2 Exposure controls****Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.

Keep away from foodstuffs, beverages and food.

Instantly remove any soiled and impregnated garments.

Wash hands during breaks and at the end of the work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

Use breathing protection with high concentrations.

Check protective gloves prior to each use for their proper condition.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

**Breathing equipment:****Protection of hands:****Material of gloves****Penetration time of glove material****Eye protection:**

Impervious gloves

Not determined

Safety glasses

Face protection

**Body protection:**

Protective work clothing.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****General Information****Appearance:**

Form: Liquid  
Smell: Not determined  
Odour threshold: Not determined.

pH-value: Not determined.

**Change in condition**

Melting point/Melting range: Not determined

Boiling point/Boiling range: Not determined

Sublimation temperature / start: Not determined

Inflammability (solid, gaseous) Not determined.

Ignition temperature: Not determined

Decomposition temperature: Not determined

Self-inflammability: Not determined.

Danger of explosion: May form explosive peroxides.

Do not distill to dryness.

**Critical values for explosion:**

Lower: Not determined

Upper: Not determined

Steam pressure: Not determined

Density at 20 °C 0,856 g/cm<sup>3</sup>

Relative density Not determined.

Vapour density Not determined.

Evaporation rate Not determined.

Solubility in / Miscibility with

Water: Not determined

Partition coefficient (n-octanol/water): Not determined.

**Viscosity:**

dynamic: Not determined.

kinematic: Not determined.

9.2 Other information No further relevant information available.

**SECTION 10: Stability and reactivity****10.1 Reactivity**

May form explosive peroxides.

**10.2 Chemical stability**

Stable under recommended storage conditions.

**Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

**10.3 Possibility of hazardous reactions**

Forms peroxides

**10.5 Incompatible materials:**

Oxidizing agents

**10.6 Hazardous decomposition products:**

Carbon monoxide and carbon dioxide

Nitrogen oxides (NO<sub>x</sub>)

Possibly Hydrogen cyanide (HCN)

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity:**

No effects known.

**LD/LC50 values that are relevant for classification:**

Tetrahydrofuran (CAS# 109-99-9): Oral: LD50: 1650 mg/kg (rat); Inhalative: LC50/3H: 21000 ppm/3H (rat)

Oral	LD50	400 mg/kg (rat)
Dermal	LD50	390 mg/kg (rabbit)

**Skin irritation or corrosion:**

May cause irritation

**Eye irritation or corrosion:**

Causes serious eye irritation.

**Sensitization:**

No sensitizing effect known.

**Germ cell mutagenicity:**

No effects known.

(Contd. on page 4)  
DE/E

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<b>Carcinogenicity:</b>	ACGIH A3: Animal carcinogen: Agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) not considered relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence suggests that the agent is not likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure. No effects known.	(Contd. of page 3)
<b>Reproductive toxicity:</b>	No effects known.	
<b>Specific target organ system toxicity - repeated exposure:</b>	No effects known.	
<b>Specific target organ system toxicity - single exposure:</b>	May cause respiratory irritation.	
<b>Aspiration hazard:</b>	No effects known.	
<b>Additional toxicological information:</b>	To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.	



**SECTION 12: Ecological information**

<b>12.1 Toxicity</b>	No further relevant information available.
<b>Aquatic toxicity:</b>	No further relevant information available.
<b>12.2 Persistence and degradability</b>	No further relevant information available.
<b>12.3 Bioaccumulative potential</b>	No further relevant information available.
<b>12.4 Mobility in soil</b>	No further relevant information available.
<b>Additional ecological information:</b>	Do not allow material to be released to the environment without proper governmental permits. Water hazard class 1 (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system. Avoid transfer into the environment.
<b>General notes:</b>	
<b>12.5 Results of PBT and vPvB assessment</b>	
<b>PBT:</b>	Not applicable.
<b>vPvB:</b>	Not applicable.
<b>12.6 Other adverse effects</b>	No further relevant information available.

**SECTION 13: Disposal considerations**

<b>13.1 Waste treatment methods</b>	Hand over to disposers of hazardous waste. Must be specially treated under adherence to official regulations. Consult state, local or national regulations for proper disposal.
<b>Recommendation</b>	
<b>Uncleaned packagings:</b>	
<b>Recommendation:</b>	Disposal must be made according to official regulations.

**SECTION 14: Transport information**

<b>UN-Number</b>	UN2056
<b>ADR, IMDG, IATA</b>	
<b>14.2 UN proper shipping name</b>	2056 TETRAHYDROFURAN
<b>ADR</b>	TETRAHYDROFURAN
<b>IMDG, IATA</b>	
<b>14.3 Transport hazard class(es)</b>	
<b>ADR</b>	
	
<b>Class</b>	3 (F1) Flammable liquids.
<b>Label</b>	3
<b>IMDG, IATA</b>	
	
<b>Class</b>	3 Flammable liquids.
<b>Label</b>	3
<b>Packing group</b>	II
<b>ADR, IMDG, IATA</b>	
<b>14.5 Environmental hazards:</b>	Not applicable.
<b>14.6 Special precautions for user</b>	Warning: Flammable liquids.
<b>Kemler Number:</b>	33
<b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC</b>	
<b>Code</b>	Not applicable.
<b>Transport/Additional information:</b>	
<b>ADR</b>	
<b>Excepted quantities (EQ):</b>	E2
<b>Limited quantities (LQ)</b>	1L
<b>Transport category</b>	2
<b>Tunnel restriction code</b>	D/E
<b>UN "Model Regulation":</b>	UN2056, TETRAHYDROFURAN, 3, II

**SECTION 15: Regulatory information**

<b>15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture</b>	
<b>Australian Inventory of Chemical Substances</b>	Substance is listed.
<b>Standard for the Uniform Scheduling of Drugs and Poisons</b>	Substance is not listed.
<b>National regulations</b>	
<b>Information about limitation of use:</b>	Employment restrictions concerning young persons must be observed. For use only by technically qualified individuals.
<b>Water hazard class:</b>	Water hazard class 1 (Self-assessment): slightly hazardous for water.
<b>Other regulations, limitations and prohibitive regulations</b>	
<b>ELINCS (European List of Notified Chemical Substances)</b>	Substance is not listed.
<b>Substances of very high concern (SVHC) according to REACH, Article 57</b>	Substance is not listed.
<b>REACH - Pre-registered substances</b>	Substance is listed.

(Contd. on page 5)  
DE/E

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Trade name **Ethylamine, 2M in THF****15.2 Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

(Contd. of page 4)

**SECTION 16: Other information**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing data specification sheet:** Health, Safety and Environmental Department.**Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  
ICAO: International Civil Aviation Organization  
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)  
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent

DE/E