

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 02.07.2013

Revision: 04.11.2010

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

Trade name

Trimethylamine, 1M solution in THF

Stock number:

H32899

CAS Number:

75-50-3

EC number:

200-875-0

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

Informing department:

1.4 Emergency telephone number:

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.



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H335 May cause respiratory irritation.

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

Xn; Harmful

R20: Harmful by inhalation.

Xi; Irritant

R37/38-41: Irritating to respiratory system and skin. Risk of serious damage to eyes.

F; Highly flammable

R11: Highly flammable.

R19: May form explosive peroxides.

Information concerning particular hazards for human and environment:**Other hazards that do not result in classification**

Not applicable

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, GHS05, GHS07

Danger

H224 Extremely flammable liquid and vapour.

H332 Harmful if inhaled.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

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.

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:

75-50-3 Trimethylamine, 1M solution in THF

Identification number(s):

EC number:

200-875-0

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.

After skin contact

Seek immediate medical advice.

Instantly wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

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

After eye contact

Seek medical treatment.

After swallowing

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4.2 Most important symptoms and effects, both acute and delayed
4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing agents
5.2 Special hazards arising from the substance or mixture

CO₂, sand, extinguishing powder. Do not use water.

If this product is involved in a fire, the following can be released:
Carbon monoxide and carbon dioxide
Nitrogen oxides (NO_x)
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).
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
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.

Prevention of secondary hazards:
6.4 Reference to other sections

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

Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
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:

Store in cool location.
Store away from oxidizing agents.
Store away from water.

Further information about storage conditions:

This product is hygroscopic.
Store under dry inert gas.
Store in cool, dry conditions in well sealed containers.
Protect from humidity and keep away from water.
Avoid contact with air / oxygen (formation of peroxide).
Check container pressure periodically to prevent explosive peroxides.
No further relevant information available.

7.3 Specific end use(s)**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:

Trimethylamine
ppm
ACGIH TLV 5; 15-STEL
Belgium TWA 10; 15-STEL
Denmark TWA 10
France TWA 10-STEL
Hungary TWA 5; 10-STEL
Ireland TWA 10; 15-STEL
Netherlands TWA 0.4 ppm
United Kingdom TWA 10; 15-STEL

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
Netherlands MAC-TGG 100 (skin)
Norway TWA 50
Poland TWA 600 mg/m³; 750 mg/m³-STEL
Russia TWA 200; 100-STEL

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Sweden NGV 50; 80-KTV
 Switzerland MAK-W 200; 1000-STEL
 United Kingdom TWA 100; 200-STEL (skin)
 USA PEL 200

75-50-3 Trimethylamine, 1M solution in THF (100,0%)

MAK (Germany) 4,9 mg/m³, 2 ppm
 REL (USA) Short-term value: 36 mg/m³, 15 ppm
 Long-term value: 24 mg/m³, 10 ppm
 TLV (USA) Short-term value: 36 mg/m³, 15 ppm
 Long-term value: 12 mg/m³, 5 ppm
 WEEL (USA) 1 ppm

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 skin.

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.

Impervious gloves

Not determined

Tightly sealed safety glasses.

Face protection

Protective work clothing.

Breathing equipment:**Protection of hands:****Material of gloves****Penetration time of glove material****Eye protection:****Body protection:****SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****General Information****Appearance:**

Form: Liquid
 Colour: Colourless
 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 0,85 g/cm³

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

Oxidizing agents

Water/moisture

10.5 Incompatible materials:

Carbon monoxide and carbon dioxide

Nitrogen oxides (NO_x)

Possibly Hydrogen cyanide (HCN)

10.6 Hazardous decomposition products:**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity:**

Harmful if inhaled.

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)

Skin irritation or corrosion:

Causes skin irritation.

Eye irritation or corrosion:

Causes serious eye damage.

Sensitization:

No sensitizing effect known.

Germ cell mutagenicity:

No effects known.

Carcinogenicity:

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.

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Reproductive toxicity:	No effects known.
Specific target organ system toxicity - repeated exposure:	No effects known.
Specific target organ system toxicity - single exposure:	May cause respiratory irritation.
Aspiration hazard:	No effects known.
Additional toxicological information:	To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.



SECTION 12: Ecological information

12.1 Toxicity	No further relevant information available.
Aquatic toxicity:	No further relevant information available.
12.2 Persistence and degradability	No further relevant information available.
12.3 Bioaccumulative potential	No further relevant information available.
12.4 Mobility in soil	No further relevant information available.
Additional ecological information:	Do not allow material to be released to the environment without proper governmental permits.
General notes:	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.
12.5 Results of PBT and vPvB assessment	
PBT:	Not applicable.
vPvB:	Not applicable.
12.6 Other adverse effects	No further relevant information available.

SECTION 13: Disposal considerations

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

SECTION 14: Transport information

UN-Number	UN1993
ADR, IMDG, IATA	
14.2 UN proper shipping name	1993 FLAMMABLE LIQUID, N.O.S. , special provision 640D (trimethylamine/tetrahydrofuran)
ADR	FLAMMABLE LIQUID, N.O.S. (trimethylamine/tetrahydrofuran)
IMDG, IATA	
14.3 Transport hazard class(es)	
ADR	
	
Class	3 (F1) Flammable liquids.
Label	3
IMDG, IATA	
	
Class	3 Flammable liquids.
Label	3
Packing group	II
ADR, IMDG, IATA	
14.5 Environmental hazards:	Not applicable.
14.6 Special precautions for user	Warning: Flammable liquids.
Kemler Number:	33
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
ADR	
Excepted quantities (EQ):	E2
Limited quantities (LQ)	1L
Transport category	2
Tunnel restriction code	D/E
UN "Model Regulation":	UN1993, FLAMMABLE LIQUID, N.O.S. , special provision 640D (trimethylamine/tetrahydrofuran), 3, II

SECTION 15: Regulatory information

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

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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)
ATA-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

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