

1 Identification of the substance/mixture and of the company/undertaking**Product identifier****Trade name****Methylamine, 40% aqueous solution****Stock number:**

L00894

CAS Number:

74-89-5

Index number:

612-001-01-6

Relevant identified uses of the substance or mixture and uses advised against**Sector of Use**

SU24 Scientific research and development

Details of the supplier of the safety data sheet**Manufacturer/Supplier:**

Alfa Aesar GmbH & Co.KG
A Johnson Matthey Company
Benzstrasse 3
D-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 department.

Emergency telephone number:

Product Safety Department +049 (0) 7275 988687-0 (business hours)
Carechem 24: +44 (0) 1235 239 670 (Multi-language 24 hour emergency)
Giftnotruf Universität Mainz / Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telefon:+49(0)6131/19240

2 Hazards identification**Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS06 skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

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

C; Corrosive

R34: Causes burns.

Xn; Harmful

R20/22: Harmful by inhalation and if swallowed.

F; Highly flammable

R11: Highly flammable.

Label elements**Labelling according to Regulation (EC) No 1272/2008****Hazard pictograms**

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



GHS02 GHS05 GHS06

Signal word

Danger

Hazard statements

H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed.

H331 Toxic if inhaled.

H314 Causes severe skin burns and eye damage.

Precautionary statements

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.

Other hazards**Results of PBT and vPvB assessment****PBT:**

Not applicable.

vPvB:

Not applicable.

3 Composition/information on ingredients**Chemical characterization: Substances****(CAS#) Designation:**Methylamine (CAS# 74-89-5); 40%
Water (CAS# 7732-18-5); 60%**Identification number(s):****Index number:**

612-001-01-6

4 First aid measures**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.

After eye contact

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

Trade name Methylamine, 40% aqueous solution

After swallowing Seek immediate medical advice.

(Contd. of page 1)

5 Firefighting measures

Extinguishing media
Suitable extinguishing agents CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
Special hazards arising from the substance or mixture Can be released in case of fire:
Nitrogen oxides (NO_x)
Inflammable gases/vapours

Advice for firefighters
Protective equipment: Wear self-contained breathing apparatus.
Wear full protective suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources
Do not allow material to be released to the environment without proper governmental permits.

Environmental precautions:
Methods and material for containment and cleaning up: 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.

Reference to other sections See Section 7 for information on safe handling
See section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

7 Handling and storage

Handling
Precautions for safe handling Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires: Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Fumes can combine with air to form an explosive mixture.

Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and containers: Store in cool location.
Information about storage in one common storage facility: Store away from oxidizing agents.
Do not store together with acids.

Further information about storage conditions: Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.

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:

Methylamine	
	ppm
ACGIH TLV	5; 15-STEL
Belgium TWA	10
Denmark TWA	10
Finland TWA	10
France TWA	10 (skin)
Germany TWA	10
Ireland TWA	10
Netherlands TWA	5; 15-STEL
Poland TWA	5 mg/m ³
Russia TWA	10; 1 mg/m ³ -STEL (skin)
Sweden TWA	10; 20-STEL (skin)
Switzerland TWA	10; 20-STEL
United Kingdom TWA	10
USA PEL	10

Control parameters
Components with critical values that require monitoring at the workplace: No data

Additional information: No data

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.
Use breathing protection with high concentrations.

Breathing equipment: Safety glasses
Eye protection: Tightly sealed safety glasses.
Face protection

Body protection: Protective work clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties
General Information
Appearance:
Form: Liquid

(Contd. on page 3)
GB

Trade name **Methylamine, 40% aqueous solution**

(Contd. of page 2)

Colour:	Clear
Smell:	Ammonia-like
Odour threshold:	Not determined.
pH-value (50 g/l) at 20°C:	14
Change in condition	
Melting point/Melting range:	-38°C
Boiling point/Boiling range:	49°C
Sublimation temperature / start:	Not determined
Flash point:	-14°C
Inflammability (solid, gaseous)	Not applicable.
Ignition temperature:	425°C
Decomposition temperature:	Not determined
Self-inflammability:	Not determined.
Critical values for explosion:	
Lower:	5.2 Vol %
Upper:	26.4 Vol %
Steam pressure at 20°C:	372 hPa
Density at 20°C	0.899 g/cm ³
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible
Segregation coefficient (n-octanol/water):	Not determined.
Viscosity:	
dynamic:	Not determined.
kinematic:	Not determined.
Other information	No further relevant information available.

10 Stability and reactivity

Reactivity	
Chemical stability	
Thermal decomposition / conditions to be avoided:	No decomposition if used and stored according to specifications.
Possibility of hazardous reactions	Reacts with alkaline metals Reacts with alkaline earth metals
Incompatible materials:	Oxidizing agents Acids Aqueous solutions are incompatible with alkali and alkaline earth metals and many reactive organic and inorganic chemicals.
Hazardous decomposition products:	Nitrogen oxides (NO _x) Inflammable gases/vapours

11 Toxicological information

Information on toxicological effects	
Acute toxicity:	
LD/LC50 values that are relevant for classification:	
Oral	LD50 698 mg/kg (rat)
Inhalative	LC50/4H 2100-2900 mg/m ³ /4H (rat)
Primary irritant effect:	
on the skin:	Corrosive effect on skin and mucous membranes.
on the eye:	Strong corrosive effect.
Sensitization:	No sensitizing effect known.
Additional toxicological information:	To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach. No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information

Toxicity	
Aquatic toxicity:	No further relevant information available.
Persistence and degradability	No further relevant information available.
Behaviour in environmental systems:	
Bioaccumulative potential	No further relevant information available.
Mobility in soil	No further relevant information available.
Additional ecological information:	
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. Do not allow material to be released to the environment without proper governmental permits. Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
Results of PBT and vPvB assessment	
PBT:	Not applicable.
vPvB:	Not applicable.
Other adverse effects	No further relevant information available.

13 Disposal considerations

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

(Contd. on page 4)
GB

Trade name **Methylamine, 40% aqueous solution**

Recommended cleaning agent: Water, if necessary with cleaning agent.

(Contd. of page 3)

14 Transport information

Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)



ADR/RID-GGVS/E Class: 3 (FC) Flammable liquids.
 Kemler Number: 338
 UN-Number: 1235
 Packaging group: II
 Label: 3+8
 UN proper shipping name: 1235 METHYLAMINE, AQUEOUS SOLUTION
 Limited quantities (LQ): LQ4
 Transport category: 2
 Tunnel restriction code: D/E

Maritime transport IMDG/GGVSea:



IMDG/GGVSea Class: 3
 UN Number: 1235
 Label: 3+8
 Packaging group: II
 Marine pollutant: No
 Segregation groups: Alkalis
 Correct technical name: METHYLAMINE, AQUEOUS SOLUTION

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class: 3
 UN/ID Number: 1235
 Label: 3+8
 Packaging group: II
 Correct technical name: METHYLAMINE, AQUEOUS SOLUTION

UN "Model Regulation":

Special precautions for user
 Transport in bulk according to Annex II of
 MARPOL73/78 and the IBC Code

UN1235, METHYLAMINE, AQUEOUS SOLUTION, 3 (8), II
 Warning: Flammable liquids.
 Not applicable.

15 Regulatory information

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

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

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GHS02 GHS05 GHS06

Signal word

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Hazard statements

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 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.

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.

Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

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.

Contact: Zachariah C. Holt
 Global EHS Manager

Abbreviations and acronyms:

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