

SECTION 1: Identification of the substance/mixture and of the company/undertaking**· 1.1 Product identifier****· Trade name:** Methylamine 40%**· 1.2 Relevant identified uses of the substance or mixture and uses advised against****· Sector of Use**

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU8 Manufacture of bulk, large scale chemicals (including petroleum products)

SU9 Manufacture of fine chemicals

SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

SU23 Electricity, steam, gas water supply and sewage treatment

· Product category

PC9a Coatings and paints, thinners, paint removers

PC19 Intermediate

PC32 Polymer preparations and compounds

· Process category

PROC1 Use in closed process, no likelihood of exposure

PROC2 Use in closed, continuous process with occasional controlled exposure

PROC3 Use in closed batch process (synthesis or formulation)

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises

PROC7 Industrial spraying

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

PROC14 Production of preparations or articles by tableting, compression, extrusion, pelletisation

PROC15 Use as laboratory reagent

PROC21 Low energy manipulation of substances bound in materials and/or articles

PROC24 High (mechanical) energy work-up of substances bound in materials and/or articles

· Environmental release category

ERC1 Manufacture of substances

ERC3 Formulation in materials

ERC4 Industrial use of processing aids in processes and products, not becoming part of articles

ERC5 Industrial use resulting in inclusion into or onto a matrix

ERC6a Industrial use resulting in manufacture of another substance (use of intermediates)

ERC6c Industrial use of monomers for manufacture of thermo-plastics

· Uses advised against: No further relevant information available.**· 1.3 Details of the supplier of the safety data sheet****· Manufacturer/Supplier:**

Balchem Corporation

52 Sunrise Park Road

New Hampton, NY 10958

USA

Tel.: +1 845-326-5600

Fax: +1 845-326-5717

Balchem Italia Srl

Via del Porto, snc

28040 Marano Ticino (NO) - Italy

Tel.: 0039-(0)3219791

Email: sds@balchem.com

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- **1.4 Emergency telephone number:**
CHEMTREC:
800-4249300 (USA)
+1 7035273887 (International)

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
Flam. Liq. 2 H225 Highly flammable liquid and vapour.
Acute Tox. 4 H302 Harmful if swallowed.
Acute Tox. 4 H332 Harmful if inhaled.
Skin Corr. 1A H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.
STOT SE 3 H335 May cause respiratory irritation.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS02 GHS05 GHS07

- **Signal word** Danger
- **Hazard-determining components of labelling:**
methylamine (mono-)
- **Hazard statements**
H225 Highly flammable liquid and vapour.
H302+H332 Harmful if swallowed or if inhaled.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.
- **Precautionary statements**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P303+P361+P353 IF ON SKIN (or hair): 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.
P310 Immediately call a POISON CENTER/doctor.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not determined

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SECTION 3: Composition/information on ingredients· **3.2 Chemical characterisation: Mixtures**· **Description:**

CAS: 7732-18-5 EINECS: 231-791-2	water, distilled, conductivity or of similar purity	60%
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· **Dangerous components:**

CAS: 74-89-5 EINECS: 200-820-0 Index number: 612-001-00-9 Reg.nr.: 01-2119475496-25-0003	methylamine (mono-) Flam. Gas 1, H220; Eye Dam. 1, H318; Acute Tox. 4, H332; Skin Irrit. 2, H315; STOT SE 3, H335; Press. Gas C, H280	40%
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· **Additional information:** For the wording of the listed hazard phrases refer to section 16.**SECTION 4: First aid measures**· **4.1 Description of first aid measures**· **General information:**

Take affected persons out of danger area and lay down.

Immediately remove any clothing soiled by the product.

In case of irregular breathing or respiratory arrest provide artificial respiration.

· **After inhalation:**

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:**

Immediately rinse with water.

In cases of frost bites, rinse with plenty of water. Do not remove clothing.

Call a doctor immediately.

· **After eye contact:**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Call a doctor immediately.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.

Do NOT induce vomiting.

Call for a doctor immediately.

· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.· **4.3 Indication of any immediate medical attention and special treatment needed**

Later observation for pneumonia and pulmonary oedema.

SECTION 5: Firefighting measures· **5.1 Extinguishing media**· **Suitable extinguishing agents:**CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Use fire extinguishing methods suitable to surrounding conditions.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet· **5.2 Special hazards arising from the substance or mixture**

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released:

Carbon monoxide

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Carbon dioxide

Nitrogen oxides (NO_x)

· **5.3 Advice for firefighters**

· **Protective equipment:** Wear self-contained respiratory protective device.

· **Additional information**

Cool endangered receptacles with water spray.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.

Wear protective clothing.

Wear protective equipment. Keep unprotected persons away.

Keep away from ignition sources.

· **6.2 Environmental precautions:**

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

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

Dilute with plenty water.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralising agent.

Dispose of the material collected according to regulations.

· **6.4 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 disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

· **Information about fire and explosion protection:**

Use explosion-proof apparatus / fittings and spark-proof tools.

Keep ignition sources away - Do not smoke.

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

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Store in a cool location.

Store only in the original receptacle.

· **Information about storage in one common storage facility:**

Do not store together with oxidising and acidic materials as well as heavy-metal compounds.

· **Further information about storage conditions:**

Do not seal receptacle gas tight.

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

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· **7.3 Specific end use(s)** No further relevant information available.**SECTION 8: Exposure controls/personal protection**· **8.1 Control parameters**· **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **DNELs****CAS: 74-89-5 methylamine (mono-)**

Dermal	DNEL(long/systemic)	0.419 mg/kg bw/day (Workers (Industrial/Professional))
	DNEL(short/systemic)	0.58 mg/kg bw/day (Workers (Industrial/Professional))
Inhalative	DNEL(long/systemic)	0.9 mg/m ³ (Workers (Industrial/Professional))
	DNEL(short/local)	20.21 mg/m ³ (Workers (Industrial/Professional))
	DNEL(short/systemic)	27.7 mg/m ³ (Workers (Industrial/Professional))

· **PNECs****CAS: 74-89-5 methylamine (mono-)**

PNEC(aqua)	0.016 mg/L (freshwater)
	0.0016 mg/L (marine water)
	0.016 mg/L (intermittent release)
PNEC(STP)	0.1263 mg/L (sewage treatment plant)
PNEC(sediment)	0.016 mg/kg sedi. dw (freshwater)
PNEC(soil)	0.0069 mg/kg soil dw (soil)

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

Do not eat, drink, smoke or sniff while working.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Avoid contact with the eyes and skin.

The usual precautionary measures are to be adhered to when handling chemicals.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

· **Material of gloves**

Neoprene gloves

Nitrile rubber, NBR

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection:

Tightly sealed goggles

· 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
Colour:	Colourless
Odour:	Ammonia-like
Odour threshold:	Not determined.

· pH-value (5 g/l) at 10 °C: >12**· Change in condition**

Melting point/Melting range:	-38 °C
Boiling point/Boiling range:	45 °C

· Flash point: -8 °C**· Flammability (solid, gaseous):** Not applicable.**· Ignition temperature:** 430 °C (Monomethylamine 100%)**· Decomposition temperature:** Not determined.**· Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.**· Explosion limits:**

Lower:	4.9 Vol %
Upper:	20.7 Vol %

· Oxidising properties No**· Vapour pressure at 20 °C:** 3200 hPa

Density at 20 °C:	0.901 g/cm ³
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.

· Solubility in / Miscibility with water: Fully miscible.**· Partition coefficient (n-octanol/water):** -0.713@25 °C (logPow)**· Viscosity:**

Dynamic at 20 °C:	1.5 mPas
Kinematic:	Not determined.

· 9.2 Other information No further relevant information available.

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SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability** No decomposition if used and stored according to specifications.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**
Forms explosive gas mixture with air.
Reacts with oxidising agents.
Reacts with various metals.
Reacts with acids.
- **10.4 Conditions to avoid** Keep away from heat and direct sunlight.
- **10.5 Incompatible materials:**
Reacts with strong oxidising agents.
Corrodes aluminium.
Corrosive action on metals.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Harmful if swallowed or if inhaled.

· **LD/LC50 values relevant for classification:****CAS: 74-89-5 methylamine (mono-)**

Oral	LD50	698 mg/kg (Rat) (OECD Guideline 401)
Inhalative	LC50 (1h)	9.23 mg/L (Rat) (OECD Guideline 403 & 433, inhalation:gas, 7110 ppm)

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**
Causes serious eye damage.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Ames and Micronucleus Test: negative
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**
May cause respiratory irritation.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information· **12.1 Toxicity**· **Aquatic toxicity:****CAS: 74-89-5 methylamine (mono-)**

LC50 (48h) (static)	970 mg/L (Fish) (OECD Guideline 203, <i>Leuciscus idus</i>)
EC20 (0,5h) (static)	240 mg/L (Bacteria) (ISO 8192, activated sludge)
EC50 (48h) (static)	163 mg/L (Daphnia) (DIN 38412, part 11, <i>Daphnia magna</i>)

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- **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.
- **Ecotoxicological effects:**
- **Remark:**
The declaration of the toxic action refers to the nominal concentration.
After neutralisation toxicity cannot be recognised any longer.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation:** Must be specially treated adhering to official regulations.
- **Uncleaned packaging**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- **14.1 UN-Number**
- **ADR, RID, ADN, IMDG, IATA** UN1235
- **14.2 UN proper shipping name**
- **ADR/RID/ADN** 1235 METHYLAMINE, AQUEOUS SOLUTION
- **IMDG** METHYLAMINE, AQUEOUS SOLUTION
- **IATA** Methylamine, aqueous solution

· **14.3 Transport hazard class(es)**· **ADR/RID/ADN**

- **Class** 3 Flammable liquids.
- **Label** 3+8

· **IMDG**

- **Class** 3 Flammable liquids.
- **Label** 3/8

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· IATA

· **Class** 3 Flammable liquids.
 · **Label** 3 (8)

· **14.4 Packing group**
 · **ADR,RID,ADN, IMDG, IATA** II

· **14.5 Environmental hazards:**
 · **Marine pollutant:** No

· **14.6 Special precautions for user** Warning: Flammable liquids.
 · **Danger code (Kemler):** 338
 · **EMS Number:** F-E,S-C
 · **Segregation groups** Alkalis
 · **Stowage Category** E
 · **Segregation Code** SG35 Stow "separated from" acids.
 SG54 Stow "separated from" mercury and mercury compounds

· **14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable.

· Transport/Additional information:

· **ADR/RID/ADN**
 · **Tunnel restriction code** D/E

· **UN "Model Regulation":** UN 1235 METHYLAMINE, AQUEOUS SOLUTION, 3 (8), II

SECTION 15: Regulatory information**· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category P5c** FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

- H220 Extremely flammable gas.
- H280 Contains gas under pressure; may explode if heated.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H332 Harmful if inhaled.

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*H335 May cause respiratory irritation.***· Department issuing SDS:**

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New Hampton, NY 10958
USA
Tel.: +1 845-326-5600
Fax: +1 845-326-5717
Email: sds@balchem.com

· Abbreviations and acronyms:

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
MARPOL: (from Marine Pollutant) International Convention for the Prevention of Marine Pollution from Ships
IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
UN: United Nations (also UNO: United Nations Organization)
NOEC: No Observed Effect Concentration
OECD: Organisation for Economic Co-operation and Development
ASTM: American Society for Testing and Materials
WAF: Water Accommodated Fraction
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 Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Gas 1: Flammable gases, Hazard Category 1
Press. Gas C: Gases under pressure: Compressed gas
Flam. Liq. 2: Flammable liquids, Hazard Category 2
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

· * Data compared to the previous version altered.