

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

- **1.1 Product identifier**
- **Trade name:** Dimethylamine 40%
- **CAS Number:**  
124-40-3
- **EC number:**  
204-697-4
- **Index number:**  
612-001-01-6
- **Registration number:** 01-2119475495-27-0003
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the preparation:**  
Industrial use  
Raw material for the chemical industry  
Coating  
Polymer preparations and compounds  
Chemical intermediate  
Use in laboratories. Industrial. Professional.
- **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
- **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.
- Aquatic Chronic 3      H412 Harmful to aquatic life with long lasting effects.

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

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

**Hazard pictograms**

GHS02 GHS05 GHS07

**Signal word Danger****Hazard-determining components of labelling:**

methylamine (di-)

**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.

H412 Harmful to aquatic life with long lasting effects.

**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: No

vPvB: No

**SECTION 3: Composition/information on ingredients****3.1 Chemical characterisation: Substances****CAS No. Description**

124-40-3 methylamine (di-) .. %

**Identification number(s)**

EC number: 204-697-4

Index number: 612-001-01-6

Additional information: Note B of Regulation (EC) 1272/2008 Annex VI applies.

**Description:**

CAS: 7732-18-5 water, distilled, conductivity or of similar purity

EINECS: 231-791-2

60%

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**· Dangerous components:**

CAS: 124-40-3 EINECS: 204-697-4 Index number: 612-001-00-9 Reg.nr.: 01-2119475495-27-0003	methylamine (di-) Flam. Gas 1, H220; Eye Dam. 1, H318; Acute Tox. 4, H332; Skin Irrit. 2, H315; STOT SE 3, H335; Press. Gas C, H280; Aquatic Chronic 3, H412	40%
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**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:**CO<sub>2</sub>, 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

Carbon dioxide

Nitrogen oxides (NO<sub>x</sub>)**· 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.

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**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.

Do not flush with water or aqueous cleansing agents

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.

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: Store away from oxidising agents.****· Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

**· 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:****CAS: 124-40-3 methylamine (di-)**WEL (Great Britain) Short-term value: 11 mg/m<sup>3</sup>, 6 ppmLong-term value: 3.8 mg/m<sup>3</sup>, 2 ppm

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IOELV (EU)	Short-term value: 9.4 mg/m <sup>3</sup> , 5 ppm
	Long-term value: 3.8 mg/m <sup>3</sup> , 2 ppm

**· DNELs****CAS: 124-40-3 methylamine (di-)**

Dermal	DNEL(long/systemic)	0.146 mg/kg bw/day (Workers (Industrial/Professional))
	DNEL(short/systemic)	3.25 mg/kg bw/day (Workers (Industrial/Professional))
Inhalative	DNEL(long/systemic)	1.027 mg/m <sup>3</sup> (Workers (Industrial/Professional))
	DNEL(short/local)	12.9 mg/m <sup>3</sup> (Workers (Industrial/Professional))
	DNEL(short/systemic)	30.2 mg/m <sup>3</sup> (Workers (Industrial/Professional))

**· PNECs****CAS: 124-40-3 methylamine (di-)**

PNEC(aqua)	0.06 mg/L (freshwater)
	0.006 mg/L (marine water)
	0.06 mg/L (intermittent release)
PNEC(STP)	100 mg/L (sewage treatment plant)
PNEC(sediment)	3.26 mg/kg sedi. dw (freshwater)

**· 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.***· 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

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· **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:** -36 °C (@1013 hPa)· **Boiling point/Boiling range:** 51 °C (@ 1013 hPa)· **Flash point:** -19 °C· **Flammability (solid, gaseous):** Not applicable.· **Ignition temperature:** 402 °C (100% Dimethylamine)· **Decomposition temperature:** Not determined.· **Self-igniting:** Product is not selfigniting.· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.· **Explosion limits:**· **Lower:** 2.8 Vol %· **Upper:** 14.4 Vol %· **Oxidising properties** No· **Vapour pressure at 20 °C:** 260 hPa· **Density at 20 °C:** 0.895 g/cm<sup>3</sup>· **Relative density** 1.55 air=1 (100% Dimethylamine)· **Vapour density** Not determined.· **Evaporation rate** Not determined.· **Solubility in / Miscibility with water:**

Fully miscible.

· **Viscosity:**· **Dynamic at 20 °C:** 1.7 mPas· **Kinematic:** Not determined.· **9.2 Other information**Molecular formula: C<sub>2</sub>H<sub>7</sub>N (Dimethylamine 100%)

Molecular weight: 45.0837 (Dimethylamine 100%)

**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.

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- *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.*
  - *Corrosive action on metals.*
  - *Corrodes aluminium.*
- **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: 124-40-3 methylamine (di-)**

Oral	LD50	ca. 1000 mg/kg (Rat)
Dermal	LD50	3900 mg/kg (Rat)
Inhalative	LC50 (1h)	9.9 mg/L (Rat) (inhalation:gas)

- **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)**
- **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: 124-40-3 methylamine (di-)**

LC50 (96h)	118 mg/L (Fish) (ISRA (Rome, 1973))
EC50 (96h) (static)	9 mg/L (Algae) (EPA (1971), <i>Pseudokirchneriella subcapitata</i> )
EC50 (48h) (static)	88.67 mg/L (Daphnia) (EU Method C.2, <i>Daphnia magna</i> )
NOEC (30d)	10 mg/L (Daphnia) ( <i>Daphnia magna</i> ) semi-static
NOEC	0.6 mg/L (Fish) (50 d, juvenile fish: growth) flow-through
NOEC (96h) (static)	2 mg/L (Algae) (EPA (1971), <i>Pseudokirchneriella subcapitata</i> )

- **12.2 Persistence and degradability** *No further relevant information available.*
- **12.3 Bioaccumulative potential** *No further relevant information available.*

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- **12.4 Mobility in soil** No further relevant information available.
- **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**

- |  |                                      |
|--|--------------------------------------|
| · <b>14.1 UN-Number</b>                  | UN1160                               |
| · <b>ADR,RID,ADN, IMDG, IATA</b>         |                                      |
| · <b>14.2 UN proper shipping name</b>    |                                      |
| · <b>ADR/RID/ADN</b>                     | 1160 DIMETHYLAMINE, AQUEOUS SOLUTION |
| · <b>IMDG</b>                            | DIMETHYLAMINE, AQUEOUS SOLUTION      |
| · <b>IATA</b>                            | Dimethylamine solution               |
| · <b>14.3 Transport hazard class(es)</b> |                                      |
| · <b>ADR/RID/ADN</b>                     |                                      |
|  |                                      |
| · <b>Class</b>                           | 3 Flammable liquids.                 |
| · <b>Label</b>                           | 3+8                                  |
| · <b>IMDG</b>                            |                                      |
|  |                                      |
| · <b>Class</b>                           | 3 Flammable liquids.                 |
| · <b>Label</b>                           | 3/8                                  |
| · <b>IATA</b>                            |                                      |
|  |                                      |
| · <b>Class</b>                           | 3+8                                  |
| · <b>Label</b>                           | 3                                    |
| · <b>14.4 Packing group</b>              |                                      |
| · <b>ADR,RID,ADN, IMDG, IATA</b>         | II                                   |
| · <b>14.5 Environmental hazards:</b>     |                                      |
| · <b>Marine pollutant:</b>               | No                                   |

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· <b>14.6 Special precautions for user</b>	<i>Warning: Flammable liquids.</i>
· <b>Danger code (Kemler):</b>	338
· <b>EMS Number:</b>	F-E,S-C
· <b>Segregation groups</b>	Alkalis
· <b>Stowage Category</b>	B
· <b>Segregation Code</b>	SG35 Stow "separated from" acids.
· <b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR/RID/ADN</b>	
· <b>Tunnel restriction code</b>	D/E
· <b>UN "Model Regulation":</b>	UN 1160 DIMETHYLAMINE, 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** Substance is not 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 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.
- H335 May cause respiratory irritation.
- H412 Harmful to aquatic life with long lasting effects.
- **Department issuing SDS:**
- Balchem Corporation
- 52 Sunrise Park Road
- 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

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*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**Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3***\* Data compared to the previous version altered.**