

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

- **1.1 Product identifier**
- **Trade name:** Dimethylamine 60%
- **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

40%

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· Dangerous components:

CAS: 124-40-3	methyamine (di-)	60%
EINECS: 204-697-4	Flam. Gas 1, H220; Eye Dam. 1, H318; Acute Tox. 4, H332; Skin	
Index number: 612-001-00-9	Irrit. 2, H315; STOT SE 3, H335; Press. Gas C, H280; Aquatic	
Reg.nr.: 01-2119475495-27-0003	Chronic 3, H412	

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

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.

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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/m³, 6 ppmLong-term value: 3.8 mg/m³, 2 ppm

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IOELV (EU)	Short-term value: 9.4 mg/m ³ , 5 ppm
	Long-term value: 3.8 mg/m ³ , 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 ³ (Workers (Industrial/Professional))
	DNEL(short/local)	12.9 mg/m ³ (Workers (Industrial/Professional))
	DNEL(short/systemic)	30.2 mg/m ³ (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:** -60 °C (@1013 hPa)· **Boiling point/Boiling range:** 36 °C (@ 1013 hPa)· **Flash point:** -40 °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:** 550 hPa· **Density at 20 °C:** 0.825 g/cm³· **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:** 2 mPas· **Kinematic:** Not determined.· **9.2 Other information**Molecular formula: C₂H₇N (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

- **14.1 UN-Number**
- **ADR,RID,ADN, IMDG, IATA** UN1160
- **14.2 UN proper shipping name**
- **ADR/RID/ADN** 1160 DIMETHYLAMINE, AQUEOUS SOLUTION
- **IMDG** DIMETHYLAMINE, AQUEOUS SOLUTION
- **IATA** Dimethylamine 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
- **IATA**
- 
- **Class** 3+8
- **Label** 3
- **14.4 Packing group**
- **ADR,RID,ADN, IMDG, IATA** II
- **14.5 Environmental hazards:**
- **Marine pollutant:** No

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· 14.6 Special precautions for user	<i>Warning: Flammable liquids.</i>
· Danger code (Kemler):	338
· EMS Number:	F-E,S-C
· Segregation groups	Alkalis
· Stowage Category	B
· Segregation Code	SG35 Stow "separated from" acids.
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:	Not applicable.
· Transport/Additional information:	
· ADR/RID/ADN	
· Tunnel restriction code	D/E
· UN "Model Regulation":	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:

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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.**