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

**1.1 Product identifier**

**Trade name** ***Dimethylamine, 40% w/w in water***

**Stock number:** 43261
**CAS Number:**
124-40-3

**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:**
Thermo Fisher (Kandel) GmbH
Zeppelinstr. 7b
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 Tel + +049 (0) 7275 988687-0

**1.4 Emergency telephone number:**
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

## SECTION 2: Hazards identification

**2.1 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

Eye Dam. 1 H318 Causes serious eye damage.


GHS07

Acute Tox. 4 H302 Harmful if swallowed.
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.

**Information concerning particular hazards for human and environment:** Not applicable
**Other hazards that do not result in classification** No information known.

**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 GHS06

**Signal word** Danger
**Hazard statements**
H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H331 Toxic if inhaled.
H315 Causes skin irritation.
H318 Causes serious 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.
P261 Avoid breathing 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.
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 applicable.
**vPvB:** Not applicable.

## SECTION 3: Composition/information on ingredients

**3.1 Substances**
**CAS# Designation:**
124-40-3 Dimethylamine, 40% w/w in water


(Contd. on page 2)

**Trade name *Dimethylamine, 40% w/w in water***

(Contd. of page 1)

## 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.
Seek immediate medical advice.
**After skin contact**
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.
**After swallowing** Seek medical treatment.
**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** No further relevant information available.

## SECTION 5: Firefighting measures

**5.1 Extinguishing media**
**Suitable extinguishing agents** CO2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
**5.2 Special hazards arising from the substance or mixture**
If this product is involved in a fire, the following can be released:
Nitrogen oxides (NOx)
Carbon monoxide and carbon dioxide
Ammonia
**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.
**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 section 13.
Ensure adequate ventilation.
**Prevention of secondary hazards:** Keep away from ignition sources.
**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 information on disposal.

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

**7.2 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 halogens.
Water reacts with many metals to give hydrogen, often violently. Water also reacts violently with many reactive organic and inorganic chemicals.
**Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
**7.3 Specific end use(s)** No further relevant information available.

## 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:**

Dimethylamine
ppm
ACGIH TLV 5; 15-STEL; A4
Belgium TWA 10
Denmark TWA 10
Finland TWA 10 (skin)
France TWA 10
Germany TWA 2
Hungary TWA 1; 2-STEL (skin)
Ireland TWA 10
Netherlands TWA 1
Russia TWA 10; 1-STEL (skin)
Switzerland TWA 10; 20-STEL
United Kingdom TWA 10
USA PEL 10

**8.1 Control parameters**

| **Components with critical values that require monitoring at the workplace:** | |
|---|---|
| **124-40-3 Dimethylamine, 40% w/w in water (100,0%)** | |
| AGW (Germany) | Long-term value: 3,7 mg/m³, 2 ppm<br>2(I);DFG, EU, 6 |
| PEL (USA) | Long-term value: 18 mg/m³, 10 ppm |
| REL (USA) | Long-term value: 18 mg/m³, 10 ppm |

(Contd. on page 3)

**Trade name *Dimethylamine, 40% w/w in water***

(Contd. of page 2)

| | |
|---|---|
| TLV (USA) | Short-term value: 27,6 mg/m³, 15 ppm<br>Long-term value: 9,2 mg/m³, 5 ppm<br>NIC-DSEN |
| WEEL (USA) | Short-term value: 3 ppm<br>Long-term value: 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 eyes and skin.
Maintain an ergonomically appropriate working environment.
**Breathing equipment:** Use breathing protection with high concentrations.
**Protection of hands:**
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.
**Material of gloves** Impervious gloves
**Eye protection:**
Tightly sealed safety glasses.
Face protection
**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 |
| **Smell:** | Fish-like |
| **Odour threshold:** | Not determined. |
| **pH-value:** | Not determined. |
| **Change in condition** | |
| **Melting point/Melting range:** | Not determined |
| **Boiling point/Boiling range:** | 52 °C |
| **Sublimation temperature / start:** | Not determined |
| **Flash point:** | -17 °C |
| **Inflammability (solid, gaseous)** | Not determined. |
| **Ignition temperature:** | 400 °C |
| **Decomposition temperature:** | Not determined |
| **Self-inflammability:** | Not determined. |
| **Danger of explosion:** | Product is not explosive. However, formation of explosive air/steam mixtures is possible. |
| **Critical values for explosion:** | |
| **Lower:** | 2,8 Vol % |
| **Upper:** | 14,4 Vol % |
| **Steam pressure at 20 °C:** | 1698 hPa |
| **Density at 20 °C** | 0,895 g/cm³ |
| **Relative density** | Not determined. |
| **Vapour density** | Not determined. |
| **Evaporation rate** | Not determined. |
| **Solubility in / Miscibility with** | |
| **Water:** | Fully miscible |
| **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** No information known.
**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**
Water reacts violently with alkali metals.
Reacts with alkaline earth metals
Water reacts with many metals to give hydrogen, often violently. Water is also incompatible with many reactive organic and inorganic chemicals.
**10.4 Conditions to avoid** No further relevant information available.
**10.5 Incompatible materials:**
Oxidising agents
Halogens
**10.6 Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)
Ammonia

## *SECTION 11: Toxicological information*

**11.1 Information on toxicological effects**
**Acute toxicity:** Harmful if inhaled.

**LD/LC50 values that are relevant for classification:**

| | | |
|---|---|---|
| Oral | LD50 | 698 mg/kg (rat) |
| Inhalative | LC50/4H | 4540 mg/m3/4H (rat) |

**Skin irritation or corrosion:** Causes skin irritation.
**Eye irritation or corrosion:**
Irritant effect.
Causes serious eye damage.
**Sensitization:** No sensitizing effect known.
**Germ cell mutagenicity:** No effects known.
**Carcinogenicity:**
ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.
**Reproductive toxicity:** No effects known.
**Specific target organ system toxicity - repeated exposure:** No effects known.

(Contd. on page 4)

**Trade name *Dimethylamine, 40% w/w in water***

(Contd. of page 3)

**Specific target organ system toxicity - single exposure:** May cause respiratory irritation.
**Aspiration hazard:** No effects known.
**Subacute to chronic toxicity:** 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**
**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:**
**General notes:**
Do not allow material to be released to the environment without proper governmental permits.
Water hazard class 1 (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities to reach ground water, water course 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**
**Recommendation**
Hand over to disposers of hazardous waste.
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.
**Recommended cleaning agent:** Water, if necessary with cleaning agent.

## *SECTION 14: Transport information*

| | |
|---|---|
| **UN-Number**<br>**ADR, IMDG, IATA** | UN1160 |
| **14.2 UN proper shipping name**<br>**ADR**<br>**IMDG, IATA** | <br>1160 DIMETHYLAMINE, AQUEOUS SOLUTION<br>DIMETHYLAMINE, AQUEOUS SOLUTION |
| **14.3 Transport hazard class(es)** | |
| **ADR** | |
|  | |
| **Class**<br>**Label** | 3 (FC) Flammable liquids.<br>3+8 |
| **IMDG, IATA** | |
|  | |
| **Class**<br>**Label** | 3 Flammable liquids.<br>3+8 |
| **Packing group**<br>**ADR, IMDG, IATA** | <br>II |
| **14.5 Environmental hazards:** | Not applicable. |
| **14.6 Special precautions for user**<br>**Kemler Number:**<br>**Segregation groups** | Warning: Flammable liquids.<br>338<br>Alkalis |
| **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** | Not applicable. |
| **Transport/Additional information:** | |
| **ADR**<br>**Excepted quantities (EQ):**<br>**Limited quantities (LQ)**<br>**Transport category**<br>**Tunnel restriction code** | <br>E2<br>1L<br>2<br>D/E |
| **UN "Model Regulation":** | UN1160, DIMETHYLAMINE, AQUEOUS SOLUTION, 3 (8), 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.
**Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.** Substance is not listed.
**The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.**
Substance is not listed.
**Annex XIV of the REACH Regulations (requiring Authorisation for use)** Substance is not listed.
**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.


(Contd. on page 5)

**Trade name *Dimethylamine, 40% w/w in water***

(Contd. of page 4)

## *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 SDS:** Global Marketing 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)
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)
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
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
vPvB: very Persistent and very Bioaccumulative
ACGIH: American Conference of Governmental Industrial Hygienists (USA)
OSHA: Occupational Safety and Health Administration (USA)
NTP: National Toxicology Program (USA)
IARC: International Agency for Research on Cancer
EPA: Environmental Protection Agency (USA)