

SAFETY DATA SHEET

Creation Date 10-March-2010

Revision Date 25-March-2024

Revision Number 5

1. Identification

Product Name Dimethylamine, 40% w/w in water

Cat No. : 43261

Synonyms DMA; N-Methyl-Methanamine.

Recommended Use Laboratory chemicals.

Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company

Importer/Distributor

Fisher Scientific
112 Colonnade Road,
Ottawa, ON K2E 7L6,
Canada
Tel: 1-800-234-7437

Emergency Telephone Number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11

Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99

CHEMTREC Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

2. Hazard(s) identification

Classification

WHMIS 2015 Classification

Classified as hazardous under the Hazardous Products Regulations (SOR/2015-17)

| | |
|---|--------------|
| Flammable liquids | Category 2 |
| Acute oral toxicity | Category 4 |
| Acute Inhalation Toxicity | Category 4 |
| Skin Corrosion/Irritation | Category 1 B |
| Serious Eye Damage/Eye Irritation | Category 1 |
| Specific target organ toxicity (single exposure) | Category 3 |
| Target Organs - Respiratory system, Central nervous system (CNS). | |

Label Elements

Signal Word

Danger

Hazard Statements

Highly flammable liquid and vapor

Harmful if swallowed or if inhaled
Causes severe skin burns and eye damage
May cause respiratory irritation



Precautionary Statements

Prevention

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/equipment
Do not breathe dust/fumes/gas/mist/vapours/spray
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
Use non-sparking tools
Take action to prevent static discharges

Response

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
IF INHALED: Remove person to fresh air and keep comfortable for breathing
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER/doctor
Rinse mouth
Do NOT induce vomiting
Wash contaminated clothing before reuse
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant

Other Hazards

Harmful to aquatic life with long lasting effects

3. Composition/Information on Ingredients

| Component | CAS-No | Weight % |
|---------------|-----------|----------|
| Water | 7732-18-5 | 55-74 |
| Dimethylamine | 124-40-3 | 26-45 |

4. First-aid measures

General Advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

| | |
|--|--|
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Call a physician immediately. |
| Inhalation | If not breathing, give artificial respiration. Remove from exposure, lie down. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician immediately. |
| Ingestion | Do NOT induce vomiting. Clean mouth with water. Never give anything by mouth to an unconscious person. Call a physician immediately. |
| Most important symptoms/effects | Causes burns by all exposure routes. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation |
| Notes to Physician | Treat symptomatically |

5. Fire-fighting measures

| | |
|---|---|
| Suitable Extinguishing Media | Dry chemical, Alcohol resistant foam. Water mist may be used to cool closed containers. CO ₂ , dry chemical, dry sand, alcohol-resistant foam. |
| Unsuitable Extinguishing Media | Carbon dioxide (CO ₂), Water may be ineffective |
| Flash Point | -18 °C / -0.4 °F |
| Method - | No information available |
| Autoignition Temperature | 390 °C / 734 °F |
| Explosion Limits | |
| Upper | 12.3 vol % |
| Lower | 2.6 vol % |
| Sensitivity to Mechanical Impact | No information available |
| Sensitivity to Static Discharge | No information available |

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes. Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products

Nitrogen oxides (NO_x).

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

Health
3

Flammability
3

Instability
0

Physical hazards
N/A

6. Accidental release measures

| | |
|----------------------------------|--|
| Personal Precautions | Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Remove all sources of ignition. Take precautionary measures against static discharges. |
| Environmental Precautions | Should not be released into the environment. Do not flush into surface water or sanitary sewer system. |

Methods for Containment and Clean Up Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7. Handling and storage

Handling Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

Storage. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Flammables area. Corrosives area. Incompatible Materials. Metals. Strong oxidizing agents. Acids. Halogens. Peroxides. Carbon dioxide (CO₂).

8. Exposure controls / personal protection

Exposure Guidelines

| Component | Alberta | British Columbia | Ontario TWAEV | Quebec | ACGIH TLV | OSHA PEL | NIOSH |
|---------------|--|----------------------------|----------------------------|----------------------------|----------------------------|--|---|
| Dimethylamine | TWA: 5 ppm TWA: 9.2 mg/m ³ STEL: 15 ppm STEL: 28 mg/m ³ | TWA: 5 ppm STEL: 15 ppm | TWA: 5 ppm STEL: 15 ppm | TWA: 5 ppm STEL: 15 ppm | TWA: 5 ppm STEL: 15 ppm | (Vacated) TWA: 10 ppm (Vacated) TWA: 18 mg/m ³ TWA: 10 ppm TWA: 18 mg/m ³ | IDLH: 500 ppm TWA: 10 ppm TWA: 18 mg/m ³ |

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH: NIOSH - National Institute for Occupational Safety and Health

Engineering Measures

Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection

Goggles

Hand Protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

| Glove material | Breakthrough time | Glove thickness | Glove comments |
|----------------|-------------------|-----------------|---|
| Nitrile rubber | < 60 minutes | 0.38 mm | Permeation rate ~2000 µg/cm ² /min |
| Butyl rubber | < 30 minutes | 0.635 mm | As tested under EN374-3 Determination of Resistance to Permeation by Chemicals |

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

Recommended Filter type: Particulates filter conforming to EN 143 or Ammonia and organic ammonia derivatives filter Type K Green

When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls

Prevent product from entering drains.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

9. Physical and chemical properties

| | |
|---|-----------------------------|
| Physical State | Liquid |
| Appearance | Colorless |
| Odor | Ammonia-like, Fishy, Strong |
| Odor Threshold | No information available |
| pH | 12 (1%) |
| Melting Point/Range | -37 °C / -34.6 °F |
| Boiling Point/Range | 54 °C / 129.2 °F |
| Flash Point | -18 °C / -0.4 °F |
| Evaporation Rate | No information available |
| Flammability (solid,gas) | Not applicable |
| Flammability or explosive limits | |
| Upper | 12.3 vol % |
| Lower | 2.6 vol % |
| Vapor Pressure | 287 mbar @ 25 °C |
| Vapor Density | 1.55 |
| Specific Gravity | 0.775-0.890 |
| Solubility | Soluble in water |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temperature | 390 °C / 734 °F |
| Decomposition Temperature | No information available |
| Viscosity | No information available |

10. Stability and reactivity

| | |
|---|---|
| Reactive Hazard | None known, based on information available |
| Stability | Stable under normal conditions. |
| Conditions to Avoid | Keep away from open flames, hot surfaces and sources of ignition. Incompatible products. Excess heat. |
| Incompatible Materials | Metals, Strong oxidizing agents, Acids, Halogens, Peroxides, Carbon dioxide (CO2) |
| Hazardous Decomposition Products | Nitrogen oxides (NOx) |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions | None under normal processing. |

11. Toxicological information

Acute Toxicity**Product Information****Oral LD50**

Category 4. ATE = 300 - 2000 mg/kg.

Dermal LD50

Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

Vapor LC50

Category 4. ATE = 10 - 20 mg/l.

Component Information

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---------------|--------------------------|---------------------------|--------------------------------|
| Water | - | - | - |
| Dimethylamine | LD50 = 698 mg/kg (Rat) | LD50 = 3900 mg/kg (Rat) | LC50 = 7340 ppm (Rat) 20 min |

Toxicologically Synergistic Products

No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Irritation**

Causes burns by all exposure routes

Sensitization

No information available

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|---------------|-----------|------------|------------|------------|------------|------------|
| Water | 7732-18-5 | Not listed | Not listed | Not listed | Not listed | Not listed |
| Dimethylamine | 124-40-3 | Not listed | Not listed | Not listed | Not listed | Not listed |

Mutagenic Effects

No information available

Reproductive Effects

No information available.

Developmental Effects

No information available.

Teratogenicity

No information available.

STOT - single exposure

Respiratory system Central nervous system (CNS)

STOT - repeated exposure

None known

Aspiration hazard

No information available

Symptoms / effects, both acute and delayed

Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Endocrine Disruptor Information

No information available

Other Adverse Effects

The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

This product contains the following substance(s) which are hazardous for the environment. Contains a substance which is: Harmful to aquatic organisms. The product contains following substances which are hazardous for the environment. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|---------------|--|--|------------|--|
| Dimethylamine | EC50: = 9 mg/L, 96h (Pseudokirchneriella subcapitata) | LC50: = 396 mg/L, 96h static (Brachydanio rerio) LC50: 127 - 349 mg/L, 96h semi-static (Poecilia reticulata) LC50: = 210 mg/L, 96h static (Poecilia reticulata) | Not listed | EC50: = 88.7 mg/L, 48h (Daphnia magna Straus) |

| | | | | |
|--|--|---|--|--|
| | | LC50: = 120 mg/L, 96h static (Oncorhynchus mykiss) LC50: 111 - 125 mg/L, 96h (Oncorhynchus mykiss) | | |
|--|--|---|--|--|

Persistence and Degradability Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its volatility.

| Component | log Pow |
|---------------|---------|
| Dimethylamine | -0.274 |

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

| Component | RCRA - U Series Wastes | RCRA - P Series Wastes |
|--------------------------|------------------------|------------------------|
| Dimethylamine - 124-40-3 | U092 | - |

14. Transport information

DOT

UN-No UN1160
 Proper Shipping Name DIMETHYLAMINE SOLUTION
 Hazard Class 3
 Subsidiary Hazard Class 8
 Packing Group II

TDG

UN-No UN1160
 Proper Shipping Name DIMETHYLAMINE SOLUTION
 Hazard Class 3
 Subsidiary Hazard Class 8
 Packing Group II

IATA

UN-No UN1160
 Proper Shipping Name DIMETHYLAMINE, AQUEOUS SOLUTION
 Hazard Class 3
 Subsidiary Hazard Class 8
 Packing Group II

IMDG/IMO

UN-No UN1160
 Proper Shipping Name DIMETHYLAMINE, AQUEOUS SOLUTION
 Hazard Class 3
 Subsidiary Hazard Class 8
 Packing Group II

15. Regulatory information

International Inventories

| Component | CAS-No | DSL | NDSL | TSCA | TSCA Inventory notification - Active-Inactive | EINECS | ELINCS | NLP |
|---------------|-----------|-----|------|------|---|-----------|--------|-----|
| Water | 7732-18-5 | X | - | X | ACTIVE | 231-791-2 | - | - |
| Dimethylamine | 124-40-3 | X | - | X | ACTIVE | 204-697-4 | - | - |

| Component | CAS-No | IECSC | KECL | ENCS | ISHL | TCSI | AICS | NZIoC | PICCS |
|-----------|-----------|-------|----------|------|------|------|------|-------|-------|
| Water | 7732-18-5 | X | KE-35400 | X | - | X | X | X | X |

| | | | | | | | | | |
|---------------|----------|---|----------|---|---|---|---|---|---|
| Dimethylamine | 124-40-3 | X | KE-11124 | X | X | X | X | X | X |
|---------------|----------|---|----------|---|---|---|---|---|---|

Legend:

X - Listed '-' - Not Listed

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

Canada

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

| Component | Canada - National Pollutant Release Inventory (NPRI) | Canadian Environmental Protection Agency (CEPA) - List of Toxic Substances | Canada's Chemicals Management Plan (CEPA) |
|---------------|--|---|---|
| Dimethylamine | Part 1, Group A Substance Part 4 Substance | | |

Legend

NPRI - National Pollutant Release Inventory

Other International Regulations**Authorisation/Restrictions according to EU REACH**

| Component | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|---------------|---|---|---|
| Dimethylamine | - | Use restricted. See item 75. (see link for restriction details) | - |

REACH links<https://echa.europa.eu/substances-restricted-under-reach>**Safety, health and environmental regulations/legislation specific for the substance or mixture**

| Component | CAS-No | OECD HPV | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|---------------|-----------|----------|------------------------------|---------------------------|--|
| Water | 7732-18-5 | Listed | Not applicable | Not applicable | Not applicable |
| Dimethylamine | 124-40-3 | Listed | Not applicable | Not applicable | Not applicable |

| Component | CAS-No | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|---------------|-----------|---|--|----------------------------|------------------------------------|
| Water | 7732-18-5 | Not applicable | Not applicable | Not applicable | Not applicable |
| Dimethylamine | 124-40-3 | Not applicable | Not applicable | Not applicable | Not applicable |

16. Other information**Prepared By**

Product Safety Department
Email: chem.techinfo@thermofisher.com
www.thermofisher.com

| | |
|-------------------------|--|
| Creation Date | 10-March-2010 |
| Revision Date | 25-March-2024 |
| Print Date | 25-March-2024 |
| Revision Summary | New emergency telephone response service provider. |

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS