

# SAFETY DATA SHEET

## 1. Identification

**Product identifier:** Tetramethylethylenediamine

**Other means of identification**

**Product No.:** 4098

**Recommended use and restriction on use**

**Recommended use:** Not available.

**Restrictions on use:** Not known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company Name:** Avantor Performance Materials, Inc.  
**Address:** 3477 Corporate Parkway, Suite 200  
Center Valley, PA 18034

**Telephone:** Customer Service: 855-282-6867

**Fax:**  
**Contact Person:** Environmental Health & Safety  
**e-mail:** info@avantormaterials.com

**Emergency telephone number:**

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

## 2. Hazard(s) identification

**Hazard classification**

**Physical hazards**

|                   |            |
|-------------------|------------|
| Flammable liquids | Category 2 |
|-------------------|------------|

**Health hazards**

|                                     |             |
|-------------------------------------|-------------|
| Acute toxicity (Oral)               | Category 4  |
| Acute toxicity (Inhalation - vapor) | Category 4  |
| Skin corrosion/irritation           | Category 1B |
| Serious eye damage/eye irritation   | Category 1  |

**Unknown toxicity**

|  |       |
|--|-------|
| Acute toxicity, inhalation, vapor        | 100 % |
| Acute toxicity, inhalation, dust or mist | 100 % |

**Label elements**

**Hazard symbol:**



**Signal word:** Danger

**Hazard statement:** Highly flammable liquid and vapor.  
Harmful if swallowed.  
Causes severe skin burns and eye damage.  
Harmful if inhaled.

**Precautionary statement**

**Prevention:** Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapors/spray. Wash 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.

**Response:** In case of fire: Use water spray, foam, dry powder or carbon dioxide for extinction. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position 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 or doctor/physician. Specific treatment (see this label). Wash contaminated clothing before reuse.

**Storage:** Store in a well-ventilated place. Keep cool. Store locked up.

**Disposal:** Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Other hazards which do not result in GHS classification:** None.

**3. Composition/information on ingredients**

**Substances**

| Chemical identity          | Common name and synonyms | CAS number | Content in percent (%)* |
|----------------------------|--------------------------|------------|-------------------------|
| TETRAMETHYLETHYLENEDIAMINE |                          | 110-18-9   | 90 - 100%               |

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

**4. First-aid measures**

**General information:** Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

**Ingestion:** Call a physician or poison control center immediately. Rinse mouth. Do NOT induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

**Inhalation:** Move to fresh air. If breathing is difficult, give oxygen. Apply artificial respiration if victim is not breathing Call a physician or poison control center immediately.

**Skin contact:** Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician or poison control center immediately. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

**Eye contact:** Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately. In case of irritation from airborne exposure, move to fresh air.

**Most important symptoms/effects, acute and delayed**

**Symptoms:** Causes severe skin and eye burns. Causes digestive tract burns. Mist or vapor extremely irritating to eyes and respiratory tract.

**Indication of immediate medical attention and special treatment needed**

**Treatment:** Treat symptomatically.

**5. Fire-fighting measures**

**General fire hazards:** Highly flammable liquid and vapour.

**Suitable (and unsuitable) extinguishing media**

**Suitable extinguishing media:** Water spray, foam, dry powder or carbon dioxide.

**Unsuitable extinguishing media:** Avoid water in straight hose stream; will scatter and spread fire.

**Specific hazards arising from the chemical:** Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations. Heat may cause the containers to explode.

**Special protective equipment and precautions for firefighters**

**Special fire fighting procedures:** Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

**Special protective equipment for fire-fighters:** Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

**6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:** ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep unauthorized personnel away. Keep upwind. Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. See Section 8 of the MSDS for Personal Protective Equipment.

**Methods and material for containment and cleaning up:** Eliminate all ignition sources if safe to do so. Take precautionary measures against static discharges. Stop leak if possible without any risk. Use only non-sparking tools. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

**Notification Procedures:** Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

**Environmental precautions:** Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

## 7. Handling and storage

**Precautions for safe handling:** DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Wear protective gloves/protective clothing/eye protection/face protection. Do not get in eyes, on skin, on clothing. Do not taste or swallow. Do not breathe the mist or vapor. Use only with adequate ventilation. Wash hands thoroughly after handling.

**Conditions for safe storage, including any incompatibilities:** Keep away from food, drink and animal feeding stuffs. Keep container tightly closed in a cool, well-ventilated place. Ground container and transfer equipment to eliminate static electric sparks. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids.

## 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

None of the components have assigned exposure limits.

#### Appropriate engineering controls

Explosion-proof general and local exhaust ventilation.

### Individual protection measures, such as personal protective equipment

**General information:** Use explosion-proof ventilation equipment. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.

**Eye/face protection:** Wear safety glasses with side shields (or goggles) and a face shield. Wear a full-face respirator, if needed.

#### Skin protection

**Hand protection:** Chemical resistant gloves

**Other:** Wear suitable protective clothing.

**Respiratory protection:** If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

**Hygiene measures:** Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Do not eat, drink or smoke when using the product. Do not get this material in contact with skin. Do not get in eyes.

## 9. Physical and chemical properties

### Appearance

|  |                            |
|--|----------------------------|
| <b>Physical state:</b>                                       | Liquid                     |
| <b>Form:</b>   | Liquid                     |
| <b>Color:</b>  | Colorless                  |
| <b>Odor:</b>   | Slight ammonia odor        |
| <b>Odor threshold:</b>                                       | No data available.         |
| <b>pH:</b>   | No data available.         |
| <b>Melting point/freezing point:</b>                         | -55 °C                     |
| <b>Initial boiling point and boiling range:</b>              | 120 °C                     |
| <b>Flash Point:</b>  | 10 °C (Closed Cup)         |
| <b>Evaporation rate:</b>                                     | No data available.         |
| <b>Flammability (solid, gas):</b>                            | No data available.         |
| <b>Upper/lower limit on flammability or explosive limits</b> |                            |
| <b>Flammability limit - upper (%):</b>                       | No data available.         |
| <b>Flammability limit - lower (%):</b>                       | No data available.         |
| <b>Explosive limit - upper (%):</b>                          | No data available.         |
| <b>Explosive limit - lower (%):</b>                          | No data available.         |
| <b>Vapor pressure:</b>                                       | Estimated 2.00 kPa (25 °C) |
| <b>Vapor density:</b>  | No data available.         |
| <b>Relative density:</b>                                     | 0.78 (20 °C)               |
| <b>Solubility(ies)</b>                                       |                            |
| <b>Solubility in water:</b>                                  | Soluble                    |
| <b>Solubility (other):</b>                                   | No data available.         |
| <b>Partition coefficient (n-octanol/water):</b>              | 0.30                       |
| <b>Auto-ignition temperature:</b>                            | No data available.         |
| <b>Decomposition temperature:</b>                            | No data available.         |
| <b>Viscosity:</b>  | No data available.         |
| <b>Other information</b>                                     |                            |
| <b>Molecular weight:</b>                                     | 116.21 g/mol (C6H16N2)     |

## 10. Stability and reactivity

|  |  |
|--|--|
| <b>Reactivity:</b>                         | No dangerous reaction known under conditions of normal use.  |
| <b>Chemical stability:</b>                 | Material is stable under normal conditions.  |
| <b>Possibility of hazardous reactions:</b> | Hazardous polymerization does not occur.   |
| <b>Conditions to avoid:</b>                | Heat, sparks, flames. Contact with incompatible materials.   |
| <b>Incompatible materials:</b>             | Strong oxidizing agents. Flammable/combustible material. Acids. Acid chlorides. Anhydrides. Copper. Copper alloys. |

**Hazardous decomposition products:** Fire or excessive heat may produce hazardous decomposition products.  
Nitrogen Oxides

**11. Toxicological information**

**Information on likely routes of exposure**

**Ingestion:** Harmful if swallowed. May cause burns of the gastrointestinal tract if swallowed.

**Inhalation:** Harmful if inhaled. Irritating to respiratory tract.

**Skin contact:** Causes severe skin burns.

**Eye contact:** Causes serious eye damage.

**Information on toxicological effects**

**Acute toxicity (list all possible routes of exposure)**

**Oral**  
**Product:** LD 50 (Rat): 1,580 mg/kg

**Dermal**  
**Product:** LD 50 (Rabbit): 5,390 mg/kg

**Inhalation**  
**Product:** No data available.

**Repeated dose toxicity**  
**Product:** No data available.

**Skin corrosion/irritation**  
**Product:** Causes severe skin burns.

**Serious eye damage/eye irritation**  
**Product:** Causes serious eye damage.

**Respiratory or skin sensitization**  
**Product:** Not a skin sensitizer.

**Carcinogenicity**  
**Product:** This substance has no evidence of carcinogenic properties.

**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**  
No carcinogenic components identified

**US. National Toxicology Program (NTP) Report on Carcinogens:**  
No carcinogenic components identified

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):**  
No carcinogenic components identified

**Germ cell mutagenicity**

**In vitro**  
**Product:** No mutagenic components identified

**In vivo**  
**Product:** No mutagenic components identified

**Reproductive toxicity**  
**Product:** No components toxic to reproduction

**Specific target organ toxicity - single exposure**

**Product:** No data available.

**Specific target organ toxicity - repeated exposure**

**Product:** No data available.

**Aspiration hazard**

**Product:** No data available.

**Other effects:** None known.

|                                   |
|-----------------------------------|
| <b>12. Ecological information</b> |
|-----------------------------------|

**Ecotoxicity:**

**Acute hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Aquatic invertebrates**

**Product:** No data available.

**Chronic hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Aquatic invertebrates**

**Product:** No data available.

**Toxicity to Aquatic Plants**

**Product:** No data available.

**Persistence and degradability**

**Biodegradation**

**Product:** There are no data on the degradability of this product.

**BOD/COD ratio**

**Product:** No data available.

**Bioaccumulative potential**

**Bioconcentration factor (BCF)**

**Product:** No data available on bioaccumulation.

**Partition coefficient n-octanol / water (log Kow)**

**Product:** Log Kow: 0.30

**Mobility in soil:** No data available.

**Other adverse effects:** The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

|                                    |
|------------------------------------|
| <b>13. Disposal considerations</b> |
|------------------------------------|

**Disposal instructions:** Discharge, treatment, or disposal may be subject to national, state, or local laws. Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Contaminated packaging:** Since emptied containers retain product residue, follow label warnings even after container is emptied.

## 14. Transport information

### DOT

|                            |                              |
|----------------------------|------------------------------|
| UN number:                 | UN 2372                      |
| UN proper shipping name:   | 1,2-Di-(dimethylamino)ethane |
| Transport hazard class(es) |                              |
| Class(es):                 | 3                            |
| Label(s):                  | 3                            |
| Packing group:             | II                           |
| Marine Pollutant:          | No                           |

### IMDG

|                            |                             |
|----------------------------|-----------------------------|
| UN number:                 | UN 2372                     |
| UN proper shipping name:   | 1,2-DI(DIMETHYLAMINO)ETHANE |
| Transport hazard class(es) |                             |
| Class(es):                 | 3                           |
| Label(s):                  | 3                           |
| EmS No.:                   | F-E, S-D                    |
| Packing group:             | II                          |
| Marine Pollutant:          | No                          |

### IATA

|                             |                               |
|-----------------------------|-------------------------------|
| UN number:                  | UN 2372                       |
| Proper Shipping Name:       | 1,2-Di-(dimethylamino) ethane |
| Transport hazard class(es): |                               |
| Class(es):                  | 3                             |
| Label(s):                   | 3                             |
| Marine Pollutant:           | No                            |
| Packing group:              | II                            |

## 15. Regulatory information

### US federal regulations

#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

##### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

##### CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

### Superfund amendments and reauthorization act of 1986 (SARA)

#### Hazard categories

Acute (Immediate)  Chronic (Delayed)  Fire  Reactive  Pressure Generating

#### SARA 302 Extremely hazardous substance

None present or none present in regulated quantities.



**SARA 304 Emergency release notification**

None present or none present in regulated quantities.

**SARA 311/312 Hazardous chemical**

| <b>Chemical identity</b>   | <b>Threshold Planning Quantity</b> |
|----------------------------|------------------------------------|
| TETRAMETHYLETHYLENEDIAMINE | 500 lbs                            |

**SARA 313 (TRI reporting)**

None present or none present in regulated quantities.

**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)**

None present or none present in regulated quantities.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**

None present or none present in regulated quantities.

**US state regulations**

**US. California Proposition 65**

No ingredient regulated by CA Prop 65 present.

**US. New Jersey Worker and Community Right-to-Know Act**

TETRAMETHYLETHYLENEDIAMINE Listed

**US. Massachusetts RTK - Substance List**

No ingredient regulated by MA Right-to-Know Law present.

**US. Pennsylvania RTK - Hazardous Substances**

No ingredient regulated by PA Right-to-Know Law present.

**US. Rhode Island RTK**

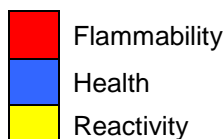
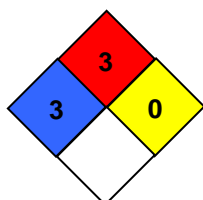
No ingredient regulated by RI Right-to-Know Law present.

**Inventory Status:**

|  |  |
|--|--|
| Australia AICS:                          | On or in compliance with the inventory |
| Canada DSL Inventory List:               | On or in compliance with the inventory |
| EU EINECS List:                          | On or in compliance with the inventory |
| EU ELINCS List:                          | Not in compliance with the inventory.  |
| Japan (ENCS) List:                       | Not in compliance with the inventory.  |
| EU No Longer Polymers List:              | Not in compliance with the inventory.  |
| China Inv. Existing Chemical Substances: | On or in compliance with the inventory |
| Korea Existing Chemicals Inv. (KECI):    | On or in compliance with the inventory |
| Canada NDSL Inventory:                   | Not in compliance with the inventory.  |
| Philippines PICCS:                       | On or in compliance with the inventory |
| US TSCA Inventory:                       | On or in compliance with the inventory |
| New Zealand Inventory of Chemicals:      | On or in compliance with the inventory |
| Japan ISHL Listing:                      | On or in compliance with the inventory |
| Japan Pharmacopoeia Listing:             | Not in compliance with the inventory.  |

**16. Other information, including date of preparation or last revision**

**NFPA Hazard ID**



Special hazard.

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

**Issue date:** 04-09-2014**Revision date:** No data available.**Version #:** 1.0**Further information:** No data available.

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