

SIGMA-ALDRICH**Material Safety Data Sheet**Version 3.4
Revision Date 09/28/2009
Print Date 12/11/2009**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : *N,N,N,N*-Tetramethylethylenediamine

Product Number : T9281
Brand : Sigma

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +18003255832
Fax : +18003255052
Emergency Phone # : (314) 776-6555

2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : TMEDA
1,2-Bis(dimethylamino)ethane
TEMED

Formula : $C_6H_{16}N_2$
Molecular Weight : 116.2 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<i>N,N,N,N</i>-Tetramethylethylenediamine			
110-18-9	203-744-6	612-103-00-3	-

3. HAZARDS IDENTIFICATION**Emergency Overview****OSHA Hazards**

Flammable Liquid, Toxic by ingestion, Corrosive

HMS Classification

Health Hazard: 3
Flammability: 3
Physical hazards: 0

NFPA Rating

Health Hazard: 3
Fire: 3
Reactivity Hazard: 0

Health Hazard: 3
Fire: 3

Reactivity Hazard: 0**Potential Health Effects**

Inhalation : May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Skin : May be harmful if absorbed through skin. Causes skin burns. May be harmful if absorbed through skin. Causes skin burns.

Eyes : Causes eye burns.

Ingestion : Toxic if swallowed. Causes burns.

4. FIRST AID MEASURES**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Continue rinsing eyes during transport to hospital. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES**Flammable properties**

Flash point : 20 °C (68 °F) - closed cup

Ignition temperature : no data available

Suitable extinguishing media

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions**

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods for cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

7. HANDLING AND STORAGE

Handling

Avoid inhalation of vapour or mist.
Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Storage

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place.

Handle and store under inert gas. Air and moisture sensitive.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment**Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves.

Eye protection

Tightly fitting safety goggles. Faceshield (8-inch minimum).

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form liquid, clear
Colour colourless

Safety data

pH no data available
Melting point -55 °C (-67 °F)
Boiling point 120 - 122 °C (248 - 252 °F)
Flash point 20 °C (68 °F) - closed cup
Ignition temperature no data available
Lower explosion limit 0.98 %(V)
Upper explosion limit 9.08 %(V)
Density 0.775 g/mL at 20 °C (68 °F)
Water solubility soluble
Partition coefficient: n-octanol/water log Pow: 0.3

10. STABILITY AND REACTIVITY**Storage stability**

Stable under recommended storage conditions.

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

Strong oxidizing agents, Carbon dioxide (CO₂), Copper

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NO_x)

Hazardous reactions

Vapours may form explosive mixture with air.

11. TOXICOLOGICAL INFORMATION**Acute toxicity**

LD50 Oral - rat - 268 mg/kg

LC50 Inhalation - rat - 4 h - 1318 ppm

LD50 Dermal - rabbit - 5,390 mg/kg

Irritation and corrosion

Eyes - rabbit - Severe eye irritation

Sensitisation

no data available

Chronic exposure

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs and Symptoms of Exposure

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema

Potential Health Effects

Inhalation May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Skin May be harmful if absorbed through skin. Causes skin burns. May be harmful if absorbed through skin. Causes skin burns.

Eyes Causes eye burns.

Ingestion Toxic if swallowed. Causes burns.

Additional Information
RTECS: KV7175000

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

no data available

Ecotoxicity effects

no data available

Further information on ecology

no data available

13. DISPOSAL CONSIDERATIONS

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN-Number: 3286 Class: 3 (6.1, 8) Packing group: II
Proper shipping name: Flammable liquid, toxic, corrosive, n.o.s. (N,N,N',N'-Tetramethylethylenediamine)
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

UN-Number: 2372 Class: 3 Packing group: II EMS-No: F-E, S-D
Proper shipping name: 1,2-DI(DIMETHYLAMINO)ETHANE
Marine pollutant: No

IATA

UN-Number: 2372 Class: 3 Packing group: II
Proper shipping name: 1,2-Di-(dimethylamino) ethane

15. REGULATORY INFORMATION

OSHA Hazards

Flammable Liquid, Toxic by ingestion, Corrosive

DSL Status

All components of this product are on the Canadian DSL list.

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
N,N,N',N'-Tetramethylethylenediamine	110-18-9	2007-03-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
N,N,N',N'-Tetramethylethylenediamine	110-18-9	2007-03-01

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

16. OTHER INFORMATION

Further information

Copyright 2009 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.