Material Safety Data Sheet

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: +18003255632
Fax: +18003250052
Emergency Phone #: (314) 776-6555

2. COMPOSITION/INFORMATION ON INGREDIENTS

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

Formula: \(C_2H_9N_2\)
Molecular Weight: 116.2 g/mol

CAS-No. EC-No. Index-No. Concentration
\(N\)-\(N\),\(N\)-\(N\)-Tetramethylethylenediamine
110-18-9 203-744-6 1612-103-06-3 -

3. HAZARDS IDENTIFICATION

Emergency Overview
OSHA Hazards
Flammable Liquid, Toxic by ingestion, Corrosive

HMIS Classification
Health Hazard: 3
Flammability: 3
Physical hazards: 0

NFPA Rating
Health Hazard: 3
Fire: 3
Reactivity Hazard: 0

4. FIRST AID MEASURES

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

Inhalation
May be harmful if inhaled. Material is extremely destructive to 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.

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

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Version 3.4
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Print Date: 12/11/2009

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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
Mellling 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 9.06 % (V)
Density 0.775 g/mL at 20 °C (68 °F)
Water solubility soluble
Partition coefficient: log Pow: 0.3
n-octanol/water

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 (NOx)

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 - 318 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.
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 exercise 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'-Tetramethylthyleneamine)
Marine pollutant: No
Poison Ingestion 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

16. OTHER INFORMATION

Further information
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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.