

MATERIAL SAFETY DATA SHEET



Conforms to 93/112/EC and ISO 11014-1

1. Chemical Product and Company Identification

Product Name: TEMED

Product Number: EC-503

**Chemical Names/
Description:**

N, N, N', N' - Tetramethylethylenediamine

Manufacturer

National Diagnostics
305 Patton Drive
Atlanta, GA 30336

Telephone Numbers

(800) 526-3867
(404) 699-2121

Emergency Numbers

Chemtrec

(800) 424-9300 (U.S. & Canada)
01-703-527-3887 (outside U.S. & Canada)

2. Composition/Information on Ingredients

Component	% Comp.	CAS #	EINECS #	TLV (Units)
Tetramethylethylenediamine	100	110-18-9	203-744-6	none established

EEC LABEL SYMBOL AND CLASSIFICATION



FLAMMABLE



CORROSIVE

R: 11-20/22-34

Highly flammable. Harmful by inhalation and if swallowed. Causes burns.

S: (1/2-) 16-26-36

Keep locked up and out of the reach of children. Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).

3. Hazards Identification

Appearance and Odor

Clear, colorless liquid, strong amine odor

EMERGENCY OVERVIEW - IMMEDIATE HAZARD

DANGER! MAY BE FATAL IF INHALED. CAUSES BURNS TO ANY AREA OF CONTACT. HARMFUL IF SWALLOWED OR ABSORBED THROUGH SKIN. COMBUSTIBLE LIQUID AND VAPOR.

EMERGENCY OVERVIEW - CHRONIC HAZARD WARNING:

CONTINUOUS EXPOSURE TO LOW LEVELS OF VAPOR CAN CAUSE A BLURRING OF VISION CALLED BLUE HAZE. THIS EFFECT IS TEMPORARY IF THE AFFECTED INDIVIDUAL IS IMMEDIATELY REMOVED FROM EXPOSURE TO VAPOR TO FRESH AIR.

Potential Health Effects

Inhalation

Corrosive. Extremely destructive to tissues of the mucous membranes and upper respiratory tract.

Ingestion

Corrosive. Swallowing can cause severe burns of the mouth, throat, and stomach.

Skin

Corrosive. Can cause severe burns of the skin. May be absorbed through the skin with possible systemic effects.

Eyes

Corrosive. Contact can cause severe tissue burns.

Signs and Symptoms of Overexposure

Inhalation

Burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. Inhalation may be fatal as a result of spasm inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema.

Ingestion

Can cause sore throat, vomiting, diarrhea.

Skin

Redness, pain, and severe burns.

Eyes

Blurred vision, redness, and pain.

Carcinogenicity

Not listed by NTP or IARC as a known or anticipated carcinogen.

Mutagenicity

Negative in the Ames Salmonella/Microsome Assay.

Reproductive Toxicity

No information found.

Teratogenic Effects

No information found.

Routes of Entry

Inhalation, ingestion or skin contact.

Target Organ Statement

Skin and eyes (irritation) are expected to be the primary target organs of this product. Continuous exposure to low levels of vapor can cause a blurring of vision called Blue Haze. This effect is temporary if the affected individual is removed to fresh air. Continuous exposure may have an effect on the nervous system.

4. First Aid Measures

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion

Do not induce vomiting. If swallowed and the person is conscious, immediately give large amounts of water. Get medical attention.

Skin

Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eyes

Immediately flush eyes with plenty of water for at least fifteen minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Flash Point	10 C (50 F)	Flammable Limits	LEL, 0.98%; UEL, 9.08%
Flash Point Method	not given	Autoignition temperature	N.A.

Extinguishing media

Dry powder, foam, carbon dioxide. (Water may be ineffective.)

Protective Equipment

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

Hazardous Combustion Products

Burning may produce carbon monoxide, carbon dioxide, nitrogen oxides.

Unusual Fire and Explosion Hazards

Above the flash point, explosive vapor-air mixtures may be formed. Sealed containers may rupture when heated. Vapors can flow along surfaces to distant ignition sources and flash back. Sensitive to static discharge.

NFPA Codes: Health 3 Flammability 3 Reactivity 1

6. Accidental Release Measures

Steps to be taken in case material is released or spilled

Ventilate area. Remove all sources of ignition. Isolate hazard area. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material and place in a chemical waste container.

Waste Disposal Method

Disposal must be made in accordance with applicable federal, state, and local regulations.

Personal Precautions

Wear appropriate protective equipment as specified in section 8.

7. Handling and Storage

Handling

Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling. Transfer methods should avoid static sparks. Use explosion proof ventilation.

Storage

Store tightly capped under nitrogen gas at 4C. Isolate from incompatible materials (section 10).

Storage Temperature

4C

Disposal

Observe all national, state, and local regulations regarding product disposal. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquids).

8. Exposure Controls/Personal Protection

Airborne Exposure Limits

Component: Tetramethylethylenediamine

ACGIH Threshold Limit Value (TLV): none established

OSHA Permissible Exposure Limit (PEL): none established

Engineering Controls

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborn Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source.

Respiratory Protection

For conditions of use where exposure to the substance is apparent, consult an industrial hygienist. For emergencies, or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator.

Eye Protection

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Skin Protection

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Other Control Measures

N.A.

9. Physical Properties

Boiling point	120 - 122 C	Evaporation Rate	No information found
Melting point	-55 C	Solubility in water	Soluble in water
Vapor pressure (mmHg)	16 mm Hg @ 20C	pH	No information found
Vapor density (Air = 1)	No information found	Specific gravity (H2O = 1)	0.78 @ 20 C

% volatile by volume 100

10. Stability and Reactivity

Stability

Stable under ordinary conditions of use and storage.

Conditions to Avoid

Heat, flames, ignition sources and incompatibles.

Hazardous Decomposition Products

Burning may produce carbon monoxide, carbon dioxide, nitrogen oxides.

Hazardous Polymerization

Will not occur

Incompatibles

Tetramethylethylenediamine:

Acids, acid chlorides, acid anhydrides, strong oxidizing agents, carbon dioxide, copper and copper alloys.

11. Toxicological Information

Product LD50 Values

TEMED	Oral Rat LD50 (mg/kg):	268
TEMED	Dermal Rabbit LD50 (mg/kg):	5390

Component Cancer List Status

	NTP Carcinogen		IARC Category
	Known	Anticipated	
Tetramethylethylenediamine	No	No	None

12. Ecological Information

Tetramethylethylenediamine

No information found.

13. Disposal Considerations

Observe all national, state, and local regulations regarding product disposal. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquids).

14. Transport Information

D.O.T.

Proper Shipping Name: 1,2 - Di - (dimethylamino) ethane

Hazard Class: 3

UN Number: 2372

Packing Group: 2

I.A.T.A.

Proper Shipping Name: 1,2 - Di - (dimethylamino) ethane

Hazard Class: 3

UN Number: 2372

Packing Group: 2

I.M.O.

Proper Shipping Name: 1,2 - Di - (dimethylamino) ethane

Hazard Class: 3

UN Number: 2372

Packing Group: 2

15. Regulatory Information

United States

TSCA Regulatory Statement

All intentional ingredients are listed on the TSCA Inventory.

SARA 311/312 Hazard Categories

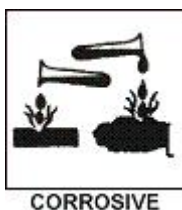
Component	Fire	Pressure	Reactivity	Acute	Chronic
Tetramethylethylenediamine	Yes	No	No	Yes	No

Europe

EEC Regulatory

All intentional ingredients are listed on the European EINECS Inventory.

EEC LABEL SYMBOL AND CLASSIFICATION



R: 11-20/22-34

Highly flammable. Harmful by inhalation and if swallowed. Causes burns.

S: (1/2-) 16-26-36

Keep locked up and out of the reach of children. Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).

16. Other Information

NFPA Codes: Health 3 Flammability 3 Reactivity 1

MANUFACTURER DISCLAIMER: The information given herein is offered in good faith as accurate, but without guarantee. Conditions of the use and suitability of the product for particular uses are beyond our control. All risks of use of the product are therefore assumed by the user. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.